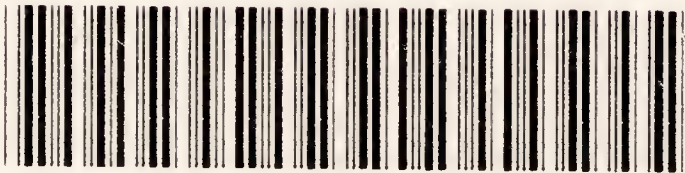


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PHYSICIAN, PASTOR
AND PATIENT



FIG. 1.—CONSILIUM MEDICUM
by Johann Geyer (1807-75)
From the Collection of George W. Jacoby

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PHYSICIAN , PASTOR AND PATIENT

Problems in Pastoral Medicine

BY

GEORGE W. JACOBY, M.D.

*Past President of the American Neurological
Association and the New York Neurological Society*

ILLUSTRATED



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mind and progressive, in contrast, agree on many points and are cooperating practically in bringing about better health—physical, mental and moral. I believe much can be done by further cooperation between these two professions. The promise for the future is most encouraging if one considers what is being accomplished *now*.

I hope I have succeeded in arousing the interest of the physician in Pedagogy, Jurisprudence and Religion, as well as the active interest of the educator, the jurist and the clergyman in Medicine. From this mutual understanding there may develop a constantly increasing cultural and practical cooperation.

GEORGE W. JACOBY, M.D.

44 West 72nd Street
New York, N. Y.
May, 1936.

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INTRODUCTION

WHERE MEDICINE AND RELIGION
JOIN HANDS



Introduction

WHERE MEDICINE AND RELIGION JOIN HANDS

MEDICINE AND RELIGION— THEIR DIFFERENCES AND COMMON MEETING GROUND



EDICINE is a branch of the natural sciences and in both theory and practice is dependent upon other natural sciences.

What Is Medicine? In actual practice medicine concerns itself with the physical and mental welfare of the human individual. It embraces the entire field of individual health disorders, of the nature and causes of such disorders, as well as the means for abating and removing them. Hygiene, as a branch of medicine, aims to prevent these disorders and promote health.

The groundwork of this and all other branches of medical science and practice is a knowledge of the human organism. In turn, this organism is a manifestation of nature, which cannot be properly recognized or investigated except in connection with the entire field of which it is a part. Thus it can be properly studied and understood only

by him who possesses general knowledge of all of nature's manifestations, as recorded in other sciences, in addition to a special knowledge of the human organism.

While the *science* of medicine is the basis of medical *practice* and is always necessary for progress, yet the latter may well be considered more important. For, as Nothnagel once said, "All knowledge attains its ethical value and its human significance only by the humane sense in which it is employed."

What Is Religion? Wieman has defined religion as "man's endeavor to adapt himself to the facts of existence . . . to adapt the whole of life to ultimate facts." And he adds, "Religion is man's acute awareness of the realm of unattained possibility and the behaviour that results from this awareness."

Medicine, on the one hand, deals with the physical, the material, the tangible. Religion, on the other, deals with the intangible, the spiritual, the often unprovable facts of existence. It deals with human morals and ethics, and as such, is rather a matter of belief or conviction than of demonstrable physical facts.

Difference and Complementary Nature. The difference between science and religion, as well as their complementary nature, is perhaps best expressed by the "Joint Statement upon the Relations of Religion and Science," drawn up in 1923 by Professor R. A. Millikan, winner of the Nobel prize, and signed by a number of the most eminent scientists and religious leaders in this country. It reads in part as follows:

The purpose of science is to develop, without prejudice or preconception of any kind, a knowledge of the facts, the laws, and the processes of nature. The even more important task of religion, on the other hand, is to develop the consciences, the ideals, and the aspirations of mankind. Each of these two activities represents a deep and vital function of the soul of man, and both are necessary for the life, the progress, and the happiness of the human race.

It has long been contended by scientists and many laymen that science, including medicine, consists of proved facts, while religion is entirely a matter of faith, of principles unproved and incapable of physical proof. This, in general, is the distinguishing difference between science and religion. Yet today eminent scientists admit that not only religious truths but scientific truths as well are based on acts of faith.

Faith Necessary to Science. Dr. Heber Doust Curtis, the astronomer, said:

In many electrical and atomic phenomena, science can no longer lay down the infallible and inflexible formulae of a few decades ago, but substitutes now a pure probability relation. In all the most modern atomic theories we find this same change from certainty to probability; no longer is an electron's future course predestined. For the determinism of the older physics we now substitute the laws of chance.

Probable certainty is the basis of all science as well as of all belief, and is amply sufficient; moreover, we have no other norm. The theory of knowledge gives no preference in this respect to scientific or religious beliefs. In the basal lack of finality which appertains to all knowledge, there is not a great deal of difference between our religious and our scientific faiths.

In the final analysis, most of the supposedly unalterable laws of science are similar to our other judgments in that they are faiths based upon reason. A rigid proof, in the absolute sense, is almost a non-existent ideal.

In illustration of this point, William Brown, psychotherapist to King's College Hospital in London, has written:

A scientist would not be able to make a single step forward in his investigations or theories about the universe unless he had that belief in the uniformity of nature—that A remains A unless and until it is altered by some other factor. Unless he holds this metaphysical belief in the uniformity of nature, he is unable to form hypotheses, and by their means advance in scientific knowledge.

Difference between Theology and Religion. In discussing the science of medicine and religion, we must not fail to remember the difference between theology and religion, which are erroneously synonymous in the minds of so many.

Theology has been called the *science of religion*. It is the crystallized concepts of a religion which have accumulated for many years. Theology tends to be dogmatic, non-progressive, intolerant and ultra-conservative. It emphasizes the sacredness of old religious customs and beliefs and is distinctly hostile to new ones. It forces thought and belief into inflexible doctrines which may not be altered with the evolution of thought and morals to higher planes.

The Reign of Dogmatism. Dogmatic theologians in every faith have always opposed medical and religious progress; and by instilling fear into the hearts of their communicants, have held sway over them for centuries with an outmoded dogmatism. Theology resists progress for fear of losing its hold over the people.

Religion, in contrast, is a process in moral evolution which adapts itself to the changing needs of people and their times. Theology is theoretical; medicine and religion are practical, endeavoring to aid people in their daily lives, in their physical, mental and spiritual needs. Even here, the actual content of each person's religious belief varies from that of every other person, just as no two people can have identical concepts of the same object.

Confusing religion with theology, many have thought that religion and science (including medicine) are entirely antagonistic, unalterably opposed. The actions and pronouncements of many scientists and religionists would substantiate this feeling.

Where the Real Conflict Lies. A closer study of religion and science, however, reveals that the actual conflict is not between them but between intolerance and liberality,

between progress and stagnation. As Professor Edwin E. Slosson has so aptly said:

The real conflict is not between science and religion as such, but rather between dogmatic and intolerant religionists and scientists on the one side and liberal and tolerant religionists and scientists on the other side. . . . The effort to force thought into fixed formulas is equally fatal in science and religion.

The leaders of modern Protestantism and modern Judaism agree with the discoveries of modern science, physical, chemical and psychological, regarding both the physical composition of things and the evolution of the universe. But they do maintain that there is a moral force underlying the physical universe. "Modern science," affirms the Right Reverend George Craig Stewart, "is italicizing the sanity and solidity of the great religious convictions of the race."

Many world-famous scientists have come forward to express agreement with religious leaders in this belief, men such as Pasteur, Lord Kelvin, Pupin, Millikan, Einstein and others. Like Professor Eddington, they insist that "back of the pointer readings of the scientist there is another world."

On the other hand, the materialists, whether scientists or laymen, deny the existence of a moral force back of this universe. They insist that anything must be visibly and physically proved before it can be accepted.

Medicine and Materialism. Physicians have been accused of being rank materialists, particularly regarding any moral or religious concepts. This may be partially true. But it is undoubtedly due to the fact that their work is concerned with the physical, especially with the disordered and distorted physical and mental. They are so close to the object of their work that, unlike the astronomer, they find it difficult to get the proper perspective. The exacting and distracting practice of medicine inevi-

tably tends to impress upon one the frailty of human existence rather than the immensity and order of the universe.

Survival of Superstition. In popular concepts of both health and religion, the extent and survival of superstition today are truly amazing. Human beings are emotional and cling to shadowy beliefs and fears in spite of the searching light of knowledge being played upon them. When it comes to health or religion, the average person is all emotion and little reason. The degrading daily influence of health superstitions upon millions of people in the so-called modern world is discussed more fully in the chapter on the survival of superstition. Unfortunately a certain type of dogmatic religionist encourages the masses to retain these superstitions, as regards both health and religion.

A Popular Fallacy. One of the most widespread superstitions is the fancied connection between goodness and health: that a person, if good, will escape illness. This superstition, if carried to its logical conclusion, would upset the basic religious belief in a moral force back of the universe. Religion, science and most of the things in our daily life are based on belief in the uniformity of natural laws. Whenever these laws are disobeyed, whether through ignorance, carelessness or intention, the transgressor is punished. Ignorance of the laws of hygiene, diet and health care does not exempt one from disease; for if physical laws operated in one case and not in another, the world would be in a state of chaos.

As Dr. Robert M. Harbin wrote:

There is an inexorable law of cause and effect which makes joy and happiness, suffering and sin, pain and death. The virulence of disease may be as marked in a saint as in a criminal. Lockjaw will destroy an innocent babe as quickly as an athlete. . . . The existence of disease is an evidence of disobedience to the laws of hygiene.

There is today a great need for teaching that disregard of natural laws brings sickness and death, for the belief that virtue brings health is probably one of the most generally accepted fallacies in existence.

Where Medicine and Religion Meet. Dr. Harbin has also said, "We cannot say when the influence of the physical man ceases and the mental and moral man begins." But in both, *health* is a primary necessity. And here, it seems to me, is the common meeting ground of the physician and the clergyman, in treating the physical and the spiritual so that a better order may result.

The need for more cooperation between the physician and the clergyman is interestingly discussed in the *Bulletin of the Kings County Medical Society* of Brooklyn, New York, for April, 1930. This article says, in part:

Recently in this country a movement has been born, founded on a reasonable attitude in both medicine and religion which recognizes that the individual is more than an organism, he has feelings and temperament and thoughts and aspirations and faiths which must be considered as well as his physical structure. And as it is the object of both physicians and clergymen to inspire individuals to better living, to clearer thinking, to better morals, and saner actions, there is a common ground of meeting in the care of persons, when these motives are the dominant factors in treatment directed to reclaim those needing it to a healthier state.

How often at times of critical illness or threatened tragedy do we hear of an anxious mother saying, "telephone for the Doctor and send for the Priest." There must be a reason for this, and it is that both Doctor and Priest are needed at such crises not only for the care of the sick one, but for the comfort of the family. Why not use this same reasoning for the care of those patients, not so critically ill, who have need of the same combination to re-establish their faith in life. We well recognize that there are many nervous and emotional disturbances which are not bettered by suggestion. Where electricity does not benefit or rest will not restore, patients may be re-educated to right thinking and action through their religious faith.

There is, then, a wonderful chance for cooperation between these two great professions.

Science and religion, according to Slosson, are alike in that they should be forward-looking and practical. They both make use of the records of the past for the interpretation of the present and for guidance in the future. These are of value not because of the historic facts they contain, but because of what they tell us of the fundamental principles of the universe and human life that are permanent and perpetually applicable.

Here is where there is need for an open mind—for that nice balance between progressiveness and conservatism.

Need for an Open Mind. Many physicians and religious workers of the present day devote much time to the practical relief of poverty and suffering. There is need for further cooperation between the two if this worthy work is to advance. All that medicine asks of religion is that it face fearlessly the results of scientific research and appreciate its high aims. Religion, in turn, asks of medicine an open mind where moral and spiritual evolution is concerned. In the final analysis, their object is the same: the physical, mental and spiritual well-being of man.

To afford a better understanding between medicine and religion and to realize the greater possibilities for cooperation between the two, this book has been written.

PART I

THE PHYSICIAN'S CALLING

Chapter I

THE SCOPE OF HIS WORK

GENERALLY speaking, the physician's obligation is to care for the sick. Even more important, however, is the *preventive* phase of his work: to keep *well* people *well*.

The material of his calling is man as such, not merely his sickness or his health.

The more a subject stands out beyond the range of the formal intellect, the more complicated does it become. Then the more palpably does the scale of logic fail as a measure of the task and the farther does the problem depart from the unfailing foundation of pure mathematics.

Each Patient an Individual Problem. Man is just such a problem. With his body of flesh and blood, he possesses not only a vegetative but also an animal nervous system with immeasurable and intangible powers, with intellect, mind, feeling, emotion, moods, temperament and will. As no two leaves of a tree are precisely alike, so are no two human beings precisely like each other.

Importance of Personality in Treatment. Just as there is no *typical human being*, there is no *typical physician*. The higher the development of each individual human being to be treated, the more will the treatment be dependent, aside from the most simple routine measures,

upon the personality of the physician. He, like his patient, presents many immeasurable qualities.

Patient's Cooperation Necessary. Except in the most simple instances, the patient should not and cannot *serve passively* as an object of attack. He should cooperate with the physician, and support and aid him through his confidence and will. In other words, if he expects favorable results, he should do his share. The more willingly, understandingly and completely he does this, the better will be the chances of success.

While the physician should treat the patient according to his best knowledge and capability, naturally, subjective influences will play a great part in this. But subjectivity is kept in bounds by inviolable professional obligations, by the "tradition" of professional standards, by the unwritten and inviolable law of the medical craft. All personal inclination, all whim or caprice in the treatment of patients, should be subordinate to the principle that justice be done each individual case in accordance with the most conscientiously tested and best understood results of medical science and art.

Physicians not Infallible. Yet nothing would be more unfair than to demand of physicians or surgeons an "infallibility" which even in the most favorable circumstances may be expected only within the realm of pure mathematics. Medical men, like others, are human and fallible. In fact, all human endeavor is inadequate. Though acting with the best intentions and conscientiously, the physician may at one time or another make a mistake.

Science and art are in a constant state of flux. The physician may and should deviate from the trodden path when he sees a better road; but he may do nothing that would be in the nature of an "experiment." He may not employ the patient as the object of any test, although he may of course record and report observations made during the regular course of treatment for the benefit of science. He

may and should progress, but only upon a secure foundation.

Whatever his personal philosophical or religious attitude, however his views of the nature of the universe may be constituted or colored, the physician or surgeon acts solely from the viewpoint of nature's law of causality. That is the law which governs his profession and vocation.

Science, Religion and the Surgeon. I have known surgeons of great skill and renown whose entire personalities were so dominated by their deeply religious, strictly orthodox belief that every serious operation was preceded by prayer. Yet naturally in every operation they followed all the scientific and technical requirements with the same precise exactitude as did their more or less agnostically inclined colleagues who never gave a thought to the possibility of any aid to be derived from a divine providence. Both have been scientifically schooled and trained; and it is a matter of course that both should insist upon the precise exactitudes of science, in spite of the differences in their personal viewpoints.

Many times the professional life of a physician will bring forth questions which will be differently evaluated and answered according to differences in his conception of the universe. This does not at all contradict what we have previously said. These questions, to which I shall have occasion to refer later, are not essentially medical, but belong rather to the fields of morals, ethics and religion.

Chapter II

THE DEVELOPMENT OF MEDICAL SCIENCE

NATIONS and families, church and society, the arts and trades, the earth and the universe, nature animate and inanimate—all have their history. As separate entities or in groups, each is always best comprehended at any definite period when viewed in relation to its surroundings and its history. Its development does not always show continuous progress in an unbroken line but frequently exhibits unmistakable interruptions caused by apparent stops or even distant reactions.

The Evolution of Science. The sciences, both the physical and intellectual, with all their subdivisions, have their history. Nor does their development always move in the line of straight, uninterrupted advance. The development of even the most exact of all sciences shows checks, stops and retrogressions; and the true nature of any individual science at any given period may best be comprehended and appreciated when viewed in relation to the other sciences. This applies without qualification to the natural sciences and to the science of medicine, both to the theory of medicine and to a certain extent to its practical application in the treatment of disease.

Medicine is really but a special form of natural sciences

in general. Yet certain natural sciences touch upon medicine only at certain points. This is particularly true of astronomy, which concerns medicine in only such aspects, for instance, as the influence of solar radiation, the light of day and the darkness of night, upon health, general well-being, moods, nervousness, and so forth.

Relation to Other Sciences. Other branches of the natural sciences are more closely bound to that of medicine, frequently to such an extent that a difference in seemingly identical fields becomes apparent only through the variation in the purpose of the work or through the differences in the points of view from which they are regarded. This is exemplified in certain special fields of physics and of chemistry, as, for instance, the physics of the circulation of the blood and the chemistry of the blood.

Cultural Position of Medicine. Natural sciences and medical science have been shaped and influenced by philosophical ideas. On the other hand, the development of the natural sciences and of medical science has left its mark upon the various teachings of philosophy, influencing their productivity, correcting or transforming and occasionally overthrowing them.

Indeed, medical science occupies a cultural position. At any determined time within a certain group of people, it stands in most intimate relation to their economic, moral and social force. This goes so far that in certain eras, among particular nations and in connection with certain political movements, the science of medicine has differed distinctly from the science of medicine among other contemporary nations.

Aid Given by Technical Development. But no matter what we may think of such subtleties or refinements, we must also remember that the development of medicine is materially influenced by the *technical* development of the times. Even if the representatives of the so-called intellectual sciences have always claimed a certain distinguished

superiority for their branch of knowledge, they readily concede that human culture owes the overpowering growth of the natural sciences and of medicine to the non-aristocratic manual technique that has been developed since the middle of the last century. They even admit that now it aids daily in making advances which some years ago would have been inconceivable. One example in point is the perfection of microscopy and its application to biochemistry and physical chemistry in the study of the blood and its circulation in the human organism. These studies have been of enormous significance to our knowledge of the functions of the individual organs and their relations to each other. They have aided us in recognizing the nature of diseases of individual organs and their relation to disease in other organs in which formerly no such direct relationship was even suspected. Thus the mechanical perfection of microscopy has enabled preventive and curative medicine to effect present improvements and blaze the path for future successes.

A few centuries ago it might have been possible for an individual genius or versatile talent to master completely the entire field of medicine and the natural sciences, even the entire knowledge and technique of his time. Still a few centuries earlier, such universality of knowledge might have been attained by many people.

Specialization Necessary Today. Today the most brilliant intellectual giant can have but a general knowledge of the whole and is capable of only a broad survey from his high point of vantage. He must limit himself to some special field or, in attempting more, he would be unable to escape the curse of dilettantism. It is not strange, then, that a physician, attracted by individual problems in the natural sciences, finally turns permanently to them and establishes for himself a name of world-wide renown as a natural scientist. Among the physicians who have followed this course are Virchow, Haeckel, Ostwald, Johannes

Müller, Verworn, Wundt, Helmholtz, DuBois, Reymond and Welch.

The task of research is to fathom nature's character, to uncover its forces, to recognize the function of these forces, and to follow the principle of natural happenings as a whole and in its parts, even where there is apparently nothing but chaos and blind chance.

Formulating the Laws of Nature. To the observer, the idea of order is irrepressible. Step by step we have penetrated deeper and deeper in our understanding of the causative relations of the facts of nature. We are wont to speak of them as the immutable laws of nature. True, the actual laws of nature are rigid and inflexible; but what we understand by laws of nature are essentially attempts to formulate the causative conditions which have been recognized through observation by means of sensory perceptions (inadequate or deceptive in themselves), controlled by the entire equipment of the mind and fortified by the experience.

Natural Laws Really Hypotheses. In this sense all natural laws fundamentally are hypotheses, no matter how impregnable they may be considered. To every scholar they should be nothing more than hypotheses, of greater or lesser probability. This is so because of the nature of all human cognition, which is impossible without sensory perception and which in turn carries with it no guarantee of objective truth. This concession we must all make, no matter what be the basis of our conception of the universe. For this same reason, the scholar is not perturbed when unexpectedly there appears a new theory, in the light of which the existing fundament, the "Rock of Gibraltar," begins to sway.

A case in point is the Einstein theory of relativity, which so recently has stirred the entire scientific world. Whether this theory is an entirely new achievement in the investigation of nature or whether it is in reality an example

of old knowledge so fascinatingly and convincingly presented as to make it appear new, it illustrates the fact that our *laws of nature* cannot assume the claim of incontrovertibility. They represent merely attempts to formulate our recognition of causality. They warn that in the further progress of science we must be prepared to revise our views.

These "laws" represent what we have been able to achieve and acquire up to the present, after most honest endeavor and desire for truth, upon the basis of observation of nature by means of sensory impression and mental control. Whenever in the future we find we have deceived ourselves regarding one point or another, we should be ready to accept the new and better law, in spite of all the bitterness attached to every disappointment. The "new," of course, should be always clearly proved to be the "better" previous to its acceptance.

Constant Evolution in Science. Just as the "laws of nature" may change, so other fundamental assumptions in the history of science are subject to mutation. In the course of time they may become displaced or even found to be entirely untenable. Not only do elements cease to be longer accepted as such, but even the very atoms undergo demolition. For instance, radium, though so recently discovered, has acquired an enormous, new and revolutionary theoretical and practical influence.

On the other hand, it also happens that the results of research have apparently been completely forgotten so that future epochs are still perplexed by concepts which a past epoch had already recognized as erroneous and had therefore discarded. In 360 B.C. the Greeks had already accepted the shape of the earth as spherical and its position as a minute particle in the universe, as a starlet among stars in the sense of the Copernican system. This concept maintained its scientific position until about 360 A.D.,

when it was lost from view, only to be resuscitated many years later.

Medicine possesses the special task of recognizing the diseases of the human organism and finding the ways and means for their cure. Thus from the viewpoint of medicine, all the remaining natural sciences are partly the basis upon which medicine is founded, partly a means to an end. They are adjunct sciences, for all of medicine is bound to nature. The teachings of nature's laws apply to medicine as well as to all natural sciences.

SCIENCE AND PHILOSOPHY

The principal cause of being thus far lies beyond our scientific knowledge. Everything connected with it seems to lie beyond the borders of even the most modern scientific research. To comprehend the primal cause of being would as yet seem to be the task of philosophy. These problems not only exist for the entire universe, but they also apply to the smallest organism, to the infinite number of infinitesimal cells of the human body whose coming and passing natural science has up to the present time been unable to comprehend.

Sense Perception and the Human Mind. This acknowledgment opens wide every portal into the domain of nature's activities for the entry of philosophical speculation. On the other hand, we must always bear in mind that sense perception itself embraces but the things and processes sensorily perceivable by the individual. Yet sense perception has a meaning only when supplemented by thought and reason, when vivified by the mind. Purely of itself sense perception is insignificant and valueless. Its worth depends entirely upon the observer's interpretation of it. Each individual sense perception and the inner connections of the things and processes individually perceived are utilized only through a thought operation which passes beyond pure sense perception. This thought operation in-

interprets and associates it in some way with other sensory perceptions. *To this extent*, therefore, the human mind is always the creative factor. Moreover, the *association* upon which this creation depends can never be fully realized sensorily but always only conceptually.

The individual sense perception may be purely accidental, involuntary or purposeful, as well as consciously determined. The person who receives the impression will interpret this impression, even though unconsciously, according to his personal point of view. Primitive man, at any rate, acts in this manner. With all possible regard for honesty and truthfulness, he easily acquires a falsification of the contents of his perception.

But history and daily experience teach that persons of higher development stand constantly in danger of becoming the prey of their prejudices when they evaluate their perceptions. We must always allow for the possibility of a transmutation of the facts of observation in accordance with the viewpoint of the observer. The history of both the natural sciences and medicine demonstrates the determining influence that has been exerted over long periods of time by speculative theories unconfirmed by experience.

Hypotheses Necessary. On the other hand, true investigation, including all progress in knowledge of the natural sciences and of medicine, is possible only with the aid of hypotheses. The employment of hypotheses in scientific investigation is not to be regarded with disfavor; it is merely the *kind* of hypotheses or the spirit in which they are adduced. An uncritical, self-sufficient or self-laudatory spirit generally produces a hypothesis which is unable to stand the fire of scientific criticism. Again, false values may be assigned to it so that it is regarded as a definitely incontrovertible truth and a source of exact knowledge instead of merely a possible aim of the investigation.

The Boundary between Philosophy and Science. No

science, no matter what its nature or scope, can do without the light of philosophy. On the other hand, we must not efface the boundaries that lie between science and philosophical speculation. In the natural sciences and in medicine, the foundation upon which we build is the observance of sensorily perceivable facts. From this basis we may not depart. It is not permissible to allow the natural sciences and medicine to impinge upon philosophy without the most rigid censorship. The inflexibility of the methods of scientific observation as applied to the studies of nature and of medicine may in no instance be abridged by even the most seductive philosophical speculation. This standard must be maintained in spite of the activity of the human body designated as *mind*, a manifestation which not only offers range for methods of observation based on nature-science-medicine and philosophy, but which of itself constitutes a comprehensive field of action for both the natural sciences and philosophy.

Logic and the Physician. However, philosophy will always be of extreme interest to scientists and physicians because it includes other branches of knowledge so intimately connected with the natural sciences and medicine. Logic, for instance, the science of the formal production of conclusion and judgment, is a tool common to all scientific procedures. Logic must operate if the scientific investigator would think correctly. Any scientific system will be disordered if there has been any disorder of logic in its construction. In questions of logic there can be no dispute or doubt. Logic is a practical help to every follower of any science.

Psychology and Medicine. Another branch of philosophy which is of great assistance in medicine is psychology, which deals with the human mind, its attributes and its activities. As psychology occupies itself with the human mind, it must take a definite stand as to what extent, if any, the mind is bound up with the body; whether and

to what extent it is independent of the body and is able to govern or influence the body.

A fundamental question for psychology is this: Is the mind merely a manifestation of the forces or properties of the body or is there a "parallelism" between the physical and mental functions, activities and states? A mechanical injury of the brain may alter or suspend mental activity; a sudden, intense fright may exert the same influence upon bodily functions. Decay of the body is usually accompanied by an abatement of mental powers, and the extinction of bodily life represents the end of every recognizable trace of mental life. On the contrary, sometimes persons who are physically very sick are still capable of great mental accomplishments. If the dependence of mental activity upon the body cannot be denied, the question may be asked: Is the mind itself affected by corresponding physical conditions such as an injury to certain parts of the brain, or is it merely restricted in its outward manifestations? Even if we assume that the life of the mind is brought about by that of the body, we are confronted by the immemorial question: Is there in man, besides this mind that is bound to the body, something else that is not physical but *spiritual*? This naturally is beyond the bounds of sensorial perception.

In recent years psychological research has taken a new direction. It is endeavoring to adopt and assimilate the method employed in natural scientific observation in order to investigate and comprehend all psychological processes from a physiological point of view.

Ethics. Another branch of philosophy which is of significance for medicine is ethics. This science, concerning itself with the nature and laws of moral obligations, endeavors correctly to evaluate the norms according to which mental and physical conduct must adjust themselves.

Psychology and ethics are of particular importance to medicine because the subjective disposition so frequently

produces a variable point of view and manner of action, and will tend to color one or the other to varying degrees. From the viewpoint of psychology this becomes particularly evident in the entire field of mental disorder, both in the normal and the pathological. It becomes evident in the teachings of consciousness and unconsciousness, in suggestion and in all questions relating to the freedom of the human will, from a theoretical viewpoint and with practical consequences of a therapeutic nature.

The field of ethics deals with the question of the general attitude of the physician toward his patient: to what extent his duty obligates him to intervene in the patient's interest, and what demands the physician has a right and duty to make upon his patient or upon the patient's relatives in regard to obedience and subordination for purposes of treatment. It also includes the question of the kind of treatment to be selected, which is of especial ethical importance when complicated cases give rise to reasonable doubts and a definite decision may be followed by very grave consequences.

Investigation in the natural sciences and in medicine demands great exactitude and is based primarily upon sensory perceptions. Philosophical speculation and religious faith, on the other hand, pass beyond the bounds of sense perceptions and deal with the intangible.

Materialistic Science and Religion. Fifty years ago the materialistic school of science was dominant. The atom was a certainty. Many scientists felt that the duplication of life and its every function was but a matter of further study and experiment. "Scientific certainty," to the materialistic school, was far removed from religious faith or philosophical speculation, even though hypotheses must be employed in scientific investigation.

Chapter III

THE FOUNDATION OF MEDICINE AND ITS RELATION TO CONTIGUOUS SCIENCES

WHATEVER the physician does as a professional man has to do with the human organism. This is the actual objective of medical science.

Medical science is a special branch of the natural sciences and is essentially dependent upon other special branches of natural science. From another standpoint, natural sciences come to a practical focus in the science of medicine. Chemistry concerns itself with the ultimate constituents of the body. Physics deals with the mechanics of the body; embryology, with the development of the human being. All these are an integral and necessary part of the science of medicine in its broader sense. For this reason it is important that the practicing physician have a thorough and basic knowledge of these other sciences. Consequently the course of instruction in medical schools does not begin with the study of medicine itself or one of its subdivisions, but with those branches of the natural sciences that constitute its foundation.

Physics. Among the introductory sciences, physics is one of the most important. No person could hope to practice

medicine intelligently without at least an elementary knowledge of physics. In fact, the derivation of the word *physician* implies that the practitioner is expected to have such knowledge. Physics deals with the manifestations of nature dependent upon the general properties of bodies. *Dynamics*, one of its subdivisions, is the science of motion and equilibrium. *Acoustics* concerns itself with *sound*, *optics* with *light*, and *thermics* with *heat*. The newer sciences of electricity, magnetism and radioactivity are of especial importance to certain branches of medicine.

A few examples will suffice to show how important an understanding of the facts of physics is to the practice of medicine. The study of the circulation is largely a matter of physics. In the physiological laboratory, it is customary to use a system of artificial tubes to illustrate what happens in the body. When the peripheral tubes are clamped, the pressure throughout the whole apparatus rises rapidly, just as occurs in the body when some irritation causes the peripheral arteries to contract.

Now if the doctor did not understand this fact, how could he hope to diagnose the cause of high blood pressure or to relieve it?

Today, physicists of the acoustic laboratories, with the aid of medical men, are developing apparatus that is making the diagnosis of many ear diseases precise to a degree never before possible. Also, this same development of acoustic science has perfected devices enabling millions of partially deaf people to improve their hearing considerably.

In relation to optics and radioactivity, we need only mention the x -ray, which has contributed more than any other discovery of recent years toward making medicine an exact science.

Chemistry is the science of the alteration in the constituents of bodies. Of its branches, organic chemistry, for example, is of utmost value to the physician. It deals with

the chemical changes in living tissues. A knowledge of the chemical changes during digestion, with the chemical changes in the blood in health and disease, is of genuine practical importance to every physician.

Inorganic chemistry, including the chemistry of metals and non-metals, is of interest to the physician in helping him understand the reactions of various chemicals to each other and their effects upon the human body. Pharmaceutical chemistry enables the physician to understand the nature of the drugs he is prescribing.

The human body is a complicated chemical laboratory. If you could take away from the physician his entire knowledge of chemistry, his methods of treatment would be mere groping in the dark—the utter empiricism of the medieval doctor.

If the doctor prescribes an iron tonic, an ordinary laxative or merely bicarbonate of soda for an acid condition of the stomach, he thinks of the result of his prescription in terms of chemistry.

Botany. Why should a doctor bother with a study of botany? Is it not enough for him to understand the action of the drugs he uses, without regard to their origin? Is it any more important that he should study the opium poppy, for instance, than that the surgeon should familiarize himself with the manufacture of the steel for the scalpels he employs?

History proves that practical medicine cannot be divorced from botany. An illustrious example is the work of Dr. William Withering (1741-99), who because he was one of the greatest of medical botanists was wittily called “the flower of physicians.” From an old grandame in Shropshire he accidentally learned that the leaves of the English foxglove plant, hitherto considered to have no medicinal value, relieved the watery swelling in cases of dropsy.

In 1785 Withering published his classic, “Account of

the Fox-glove," a perfect botanical and pharmacological presentation of this valuable heart tonic. Today, foxglove (*digitalis*) is the one remedy upon which physicians place greatest reliance for heart failure or insufficiency and dropsy of cardiac origin.

It is altogether fitting that William Withering's body should lie peacefully in the old churchyard at Edgbaston, the foxglove adorning the monument over his grave.

Aside from medical discoveries, does a knowledge of botany help the physician of today? In many ways. For instance, many vegetables have come to the fore because of their content of vitamins and important minerals, like iodine. We can carry the illustration further and show how specific botanical knowledge, distinguished from general information as to food values (such as could be gathered quickly from a chart) becomes a matter of importance.

Iodine is an indispensable element, absence of which from the diet produces simple goiter. Vegetables, which ordinarily contain a fair quota of iodine, are frequently recommended as a preventive. On closer analysis we find that vegetables grown in South Carolina are rich in iodine, while those raised in Michigan are poor in it. The former will protect against simple goiter; the latter will not.

While no physician carries in his memory the source and botanical facts with regard to all the drugs he prescribes, practically all agree that such information may be very valuable at times.

Botany is the science of the vegetable kingdom. General botany deals with the morphology, or structure, of plants and with plant physiology or a study of the life processes. Special botany has for its aim the systematic survey of the individual components of the vegetable kingdom in accordance with their relationship to each other

and the distinguishing characteristics by which they are classified into genera, species, varieties, etc.

Bacteriology. One subdivision of botany overshadows all others in importance to the physician; namely, bacteriology. The majority of microbes are bacteria, or tiny plant cells. A smaller number are unicellular animal organisms and come under the general heading of zoology, although for convenience the study of bacteriology usually includes both the plant and animal microbes that cause disease.

As was so brilliantly proved by Pasteur, a large number of diseases to which man and the lower animals are heir are conveyed by bacteria. And we may well cite bacteriology as a field where medicine and botany join hands—an excellent example of the contiguity between medicine and other branches of learning.

Mineralogy is the science that deals with minerals found in the earth's crust. Many of them, like common table salt, are indispensable to life. Others are widely prescribed in medicine, including calcium, magnesium, iron, bismuth, mercury, silver, etc.

In some countries, particularly India, there is a deep-rooted prejudice against drugs of mineral origin. Here the herb doctors reign supreme.

Zoology is the science of the animal kingdom. Like botany, it is subdivided into general and special zoology. The former deals with the anatomy and physiology of animal life; the latter, with the differential study of various animals and their classification.

There is a close relation between medicine and zoology. Whether one accept or deny the doctrine of evolution, the fact cannot be disputed that man and the lower animals have many traits in common.

Much of our knowledge of human disease has been gathered from experiments on animals. Without this kind of research, progress in our methods of treating disease would

come to a standstill. To cite one brilliant example, diphtheria antitoxin, which annually saves many thousands of lives from a deadly disease, could never have been discovered without experiments on animals. Today, it is the blood of the immunized horse that supplies us with this life-saving serum.

Zoology also helps in standardizing many of our medicinal agents before they are used on human beings. The laboratory worker must be familiar with the anatomy and physiology of white mice, cats, frogs and other animals used for such assays. By their effect on white mice we can determine with mathematical precision the potency of various vitamin preparations intended for use as preventives or for the treatment of vitamin deficiency in man. Before digitalis is used on human beings, its strength should be tested on the cat's or the frog's heart, because foxglove leaves are not always of the same potency.

Parasitology. Just as bacteriology furnishes a common ground for botany and medicine, parasitology, or the study of animal microbes that may cause disease in man, is a field of contiguity between zoology and medicine. Malaria, African sleeping sickness, syphilis and amebic dysentery are among the examples of human diseases due to animal parasites.

Embryology. I have heard it said that no deep student who has mastered the science of embryology can ever doubt the theory of evolution. But perhaps a fairer way to state it would be that embryology furnishes the strongest evidence upon which the doctrine of evolution is founded. In his development before birth, the human individual seems to recapitulate his ancestral evolutionary history. For example, in the early months after conception, gill arches resembling the gill structures of the fish develop in the human organism. Later, they disappear. Much has been written about the Darwinian tubercle, a lump on the shell of the ear similar to that found in certain apes,

which is present in the human fetus but disappears before birth.

Ontogeny repeats phylogeny. Or, as Balfour stated in his work on comparative embryology, "each organism in the course of its individual ontogeny repeats the history of its ancestral development."

Evolution. The fact that the human embryo in the earlier stages of its development shows definite animal characteristics cannot be denied. This is a matter of simple observation. It has led Haeckel and other scientists to propound the doctrine that the history of the individual germ is a brief repetition of the history of the race. The cause of this repetition must be sought in the laws of heredity and adaptation.

Largely through misunderstanding, the doctrine of evolution has met with bitter opposition from some religious sources. Charles Darwin's own neighbors subjected him to petty persecutions. Only a few years ago, a public school teacher was discharged and driven from the State of Tennessee because he taught the facts of evolution as they are taught in the schools of other states. The Scopes trial attracted distinguished counsel and had considerable significance from an educational viewpoint. But what a farce it is to attempt to determine the origin of man by recourse to a court of law!

There is no reason why a person of deep religious convictions should be offended by the doctrine of evolution, nor indeed why he should not accept it if it appeals to his reason. God fulfills his will in many ways. He has given us eyes with which to observe and minds with which to reason. When science throws a faint glimmer on the secrets of life, there is no reason why one should close his eyes as if he were envisaging Satan, simply because science and religion for the moment appear to be in conflict. Let us rather admit the relativity of all knowledge and trust

that at some time in the future apparent discords may be brought into harmony.

Mendel, Priest and Scientist. A striking example of how a highly intellectual man can be deeply religious in his nature and still make scientific studies in no way colored by his religion is the life of Gregor Johann Mendel (1822-84). Father Mendel was an Augustinian monk and a great scientist. In 1865 he announced the results of some experiments on the hybridization of peas which today, after sixty-five years, remain the basis of our whole conception of heredity, even as applied to man.

Father Mendel did not *mix* religion and science, although he was a disciple of both. His science was as purely scientific as his religion was purely religious.

The clergy of today is not shocked by evolution. Many clergymen accept the doctrine and believe that it is not in any way inconsistent with religious teachings. Other clergymen tolerate it, while comparatively few nowadays take active opposition to it.

And there is a correspondingly more tolerant attitude on the part of the scientific thinker. He does not assert arrogantly that evolution disproves the existence of God, or that divinity has been superseded by materialistic science. He recognizes the limitations of his own knowledge. Evolution does not prove all. It is certainly no justification for atheism.

Turning from the natural sciences that are contiguous to medicine, we come now to those branches of learning that constitute its foundation—the anatomy and physiology of man.

Anatomy. Every medical student today is required to dissect the entire human body at least twice. Nobody will deny that, without a knowledge of the form and structure of the organs of the body, no physician could possibly treat the diseases of these organs with any degree of intelligence.

Before the thirteenth century, human dissection was proscribed by law and church decree. Sentiment was also strongly against it, due largely to a survival of the ancient belief that the soul eventually returns to the body. It is believed that some of the earlier anatomists pilfered the grave in the interest of science, facing execution if detected. Much of our knowledge of anatomy at that time was gleaned from dissections made upon dogs, cows, pigs and monkeys by Galen (131-201 A.D.). It was necessarily quite inaccurate.

When Dissection Was Forbidden. Toward the close of the thirteenth century a number of human dissections were done by Mondino de Luzzi. But in the year 1300 the bull "De sepulturis" of Pope Boniface VIII forbade dismemberment of the human body and thereby put an end to legalized dissection. This mandate was not meant as a blow to medicine, with the advancement of which the church was in entire sympathy, but was required to prevent the bodies of dead Crusaders from being boiled and mutilated before return to their relatives. Later, the church withdrew its objection to dissection for scientific purposes, out of consideration of the fact that it was done for the benefit of mankind and to relieve suffering.

No religion today attempts to put an end to human dissection, although the rites connected with burial are an obstacle to obtaining the material when relatives survive the deceased. The orthodox Jewish burial rites provide that interment must take place within twenty-four hours, and this explains the fact that relatively few cadavers of Jewish persons ever reach the dissecting table.

Human anatomy is divided into gross and microscopical: The former describes the appearance of the organs and tissues as they can be seen with the unaided eye; the latter, with the aid of the microscope and special staining processes. Histology is a synonym for microscopical anatomy.



FIG. 2. JOHANN GREGOR MENDEL.



It is only with the aid of the microscope that we can see the ultimate structure forming the basis of all tissue—the cell. And then we realize that the human body is really a vast community composed of millions of these cells living together in harmonious relation to each other. Disturbance of this harmony is one of the causes of certain types of disease.

To the surgeon, anatomy assumes special significance. He must know every structure appertaining to the region upon which he operates. He must know not only the usual but also the anomalous forms. Not infrequently, in the course of a dissection, one encounters arterial trunks that do not follow the usual course. The surgeon must be prepared for just such contingencies.

Anatomy has contributed to art. Many sculptors and artists at whose figures we marvel gained their knowledge of the human body at the dissecting table.

Physiology. Second only to anatomy in importance is physiology, the science that treats of the functions of the living organism and its parts. Anatomy is dead, inanimate. In studying it we have somewhat the attitude of the carpenter, unless we remember constantly the important uses to which the organs we dissect are put during life. Anatomy helps us to understand physiology, because the structure of an organ suggests its purpose. Physiology also helps us to understand anatomy, because when we see an organ in action we more readily comprehend the reason for its structure.

The main sections of physiology deal with the systems of the body: the digestive system, the circulatory system, the respiratory system, the nervous system, the excretory system, the reproductive system, the organs of internal secretion, and metabolism. Then we must consider muscle-nerve phenomena, the special sense organs (mediating sight, hearing, smell, taste, touch, etc.), and the control of body temperature.

The life cycle of the human being begins with conception, when the tiny spermatozoon (male germ cell) penetrates the ovum (female germ cell) in the fallopian tube, and progresses through the embryonic and fetal stages, through infancy and childhood, through adolescence, maturity and finally senility to natural death. With all of these stages physiology is concerned in our endeavor to observe and explain the vital processes so far as is humanly possible.

Physiology has attempted to appropriate psychology, perhaps to the end of giving a materialistic explanation of a number of mental phenomena. Physiological psychology, as this study is called, approaches the subject from the standpoint of objective observations and known facts with regard to the physiology of the nervous system. It is a valuable method of approach but cannot entirely supplant previously well-established facts of psychology that have been built up from subjective methods of study.

Is There a Soul? The existence of a soul is a basic belief in all faiths. Contrary to a general impression, the science of physiology has not accumulated evidence opposed to the existence of a soul, nor do physiologists attempt to discredit the soul. On the other hand, the experimental laboratory has not adduced a single bit of evidence that a scientist would accept in support of the existence of a soul. It is simply too remote a problem for solution by scientific methods. Recognizing his limitations, the physiologist has not attempted an answer *pro* or *con*.

The man who believes in a surviving ego has just as much *scientific* justification as the one who denies its existence simply because it cannot be proved, and the atheist is just as much a negative fanatic as the irreconcilable fundamentalist is a positive fanatic.

Religion no longer denounces science as heresy. It is always ready to revise its teachings so as to keep pace with the scientific trend of the times. Nor does science flout

religion simply because its doctrines cannot be proved by chemical tests or physiological experiments. Both are trying to evolve truth for the benefit of mankind, each in its own way.

This convergence of science and religion is one of the most remarkable, and I think one of the most inspiring, cultural developments of recent years. Ten years ago, the idea of a Christian clergyman adorning the entrance of his church with busts of Einstein and Emerson would have been inconceivable. His congregation would probably have brought him to account. Today, *it has happened*.*

On the other hand, many leading scientists of today profess a belief in God. Recently Dr. W. R. Whitney, famous physicist and director of many vast electrical researches, declared that, in seeking answers to some of the profound riddles of the universe, science can find no better answer than "the will of God." Emphasizing the limitations of science, he averred that "the best scientists have to recognize that they are just kindergarten fellows playing with mysteries." Dr. Whitney continued:

We move from one theory to the next, and always there is something that does not fit in with the other evidence. Take the atom. Yesterday it was whirling particles, infinitesimal solar systems. But that is outmoded now and today the atom is described as a wave in space. Tomorrow it will be something different. The theory of relativity is not final. It won't stand fixed. No scientific concept can stand still. All is in motion. The will of God, the law which we discover but cannot understand or explain—that alone is final.

* See Figure 20, following p. 354.

Chapter IV

PRACTICAL APPLICATION OF THE PHYSICIAN'S KNOWLEDGE

EVERY man is a law unto himself. The medical curriculum teaches the fundamental facts of medical science, but in a general way. Only experience at the bedside teaches the young doctor how to individualize and to treat patients, not cases.

The human mind loves to classify, but we must always remember that such classifications are merely for convenience. The industrious student learns the classical symptoms of pneumonia at college, only to find out that no two individuals seem to present the disease in the same way.

Human Types. Recognizing the differences in individuals, an attempt has been made to classify them according to types. The configuration of the body, the balance of the glands of internal secretion, the personality—these and other factors must be taken into consideration before the physician decides upon his course of treatment.

For example, let us suppose that a chubby but flabby and anemic boy is brought to the surgeon to have his tonsils and adenoids removed. The doctor's examination

shows that the thymus gland, located behind the upper portion of the breast-bone, has remained large, instead of shrinking as it should in infancy. He knows that the operation would be dangerous in this condition, that the anesthetic alone might cause the death of the patient. Hence his individualization saves a human life. He treats the patient, not simply his tonsils and adenoids.

Again, take the case of a surgeon who is ready to operate upon a man with gallstones when he learns that at one time he almost bled to death after having a tooth extracted. On further inquiry, he finds that the patient's grandfather on his mother's side also suffered from dangerous hemorrhages, and this history classifies the patient as a bleeder. Under the circumstances, the surgeon declines to operate. His individualization saves a life that would be lost if he simply proceeded to carry out the customary treatment for "a case of gallstones."

Sometimes the individuality of a patient retreats behind his type. Every physician has dozens of patients who are temperamentally and constitutionally so alike that he unconsciously groups them together in his mind. Hence, when he talks to Mrs. Jones he adopts the same attitude as when talking to Mrs. Smith, because both are of the same type; but Mrs. White, on the other hand, must be approached in an entirely different fashion, because she is of another type.

On the other hand, there are instances in which the individuality predominates. Countless hereditary and environmental influences contribute to make a character: parental stock; causes that affect body, mind and personality; differences in family training; education, occupation and social position; temperament, tendencies and cultural plane; illnesses, injuries and psychic shocks.

Endowed or afflicted with the effects of these various influences, the "human organism" comes to the physician for care and treatment.

Individuality in Law. In the realm of jurisprudence, a similar state of affairs exists. It is covered by the statement that every case must be judged on its own merits. If the law were cut and dry and classified to cover every contingency, litigation would be reduced to questions of fact. Actually, the individual circumstances and the individual litigants are frequently the determining factors in the verdict.

Criminal law forbids the deed but prosecutes the perpetrator. Theoretically, it is only the deed that is punishable; but actually it is the perpetrator who must be called to account.

All courts of justice take into consideration the fact that the individuality of the accused must be weighed as well as the criminality of his acts. Two men commit what appears in each instance to be a cold-blooded murder. One is actuated solely by deep malignity of heart. The other is suffering from a delusion of persecution and believes that in killing he is protecting himself. In each instance, the paramount duty of the court is to safeguard society. But obviously there is a great difference in the moral and legal aspects of the two homicidal acts, although the superficial circumstances at the time may appear almost identical.

The law recognizes a distinction according to individuality in its dictum: *Si duo faciunt idem non est idem* (if two do the same, it is not the same).

The aim of the physician is to prevent, cure or alleviate disease. The truth of the proverb, "a stitch in time saves nine," is well recognized in medicine. Today, prevention of disease is considered the most hopeful phase of medicine.

Hygiene is the science of health and its preservation. It is closely linked with *sanitation*, which refers to measures taken by the community to protect its health, and with

prophylaxis, which implies taking active steps to prevent a particular disease that threatens.

Therapeutics is the science and art of healing the sick. Whether the treatment undertaken eradicates the disease or merely alleviates the symptoms, whether it is mechanical or resorts to the use of a drug, the term therapeutics is still properly applied. Furthermore, when we use the term disease, we have in mind all the ills to which flesh is heir, any departure from the state of health, whether it be a fever, a fracture, a defect of the body's formation or a mental affliction.

Pathology and Etiology. This brings up the study of disease itself, aside from its symptoms and treatment, which constitutes the science of *pathology*. Closely linked with pathology is *etiology*, which discusses the causes of disease. The pathologist investigates the changes that take place in various organs in disease, classifies them, and endeavors to account for them. To this end he performs postmortem examinations; studies tissues removed at operation; and also examines organs microscopically, comparing them with microscopical sections from normal organs.

Our understanding of the nature of a disease is necessarily correlated with a knowledge of its cause. If we do not know the cause, we do not understand the disease. And since treatment so often consists in removing the cause, we are faced with a double handicap. A given symptom or disease may result from various causes. It is the task of the physician to determine which cause is operative in the case under consideration.

We know that the cause of malaria is a microscopical animal parasite conveyed by anopheles mosquitoes. The insect becomes infected by biting a malarial patient and then transmits the microbes to a healthy human being by biting him. Contrast this definite knowledge with our ignorance concerning the cause of cancer, and you will

readily understand why the physician cures malaria but only relieves the suffering of his cancer patients (except in very early stages) .

Problems for the Future. There are many other widespread diseases whose etiology is still unknown. The germs that cause smallpox, chickenpox, measles, German measles and mumps have not been found. There is still much dispute as to the identity of the microbes causing rheumatism, influenza and even the common cold. When the bacterial causes of all these diseases are definitely proved, treatment will probably become more hopeful.

Meanwhile it is the task of that much neglected instrument of public welfare, scientific research, to come closer and closer to recognition of the causative factors of disease that are as yet not entirely understood, and thereby to aid not only science but practical medicine as well. For the more clearly the root of an evil lies exposed to the understanding of a physician, the more positively can he prevent its implantation or aid nature in its eradication if it has already been sown.

Aims of Treatment. The ideal treatment of today aims to eliminate the disease by removing its cause. For instance, if the disease is malaria, due to the presence of malarial parasites in the blood, the physician administers quinine, which kills the microbes of malaria. It would be foolish merely to treat the chill, fever and sweat that constitute the symptoms of malaria.

On the other hand, there are occasions when the cause of the disease cannot be removed, when it cannot even be identified. Under such circumstances, the physician endeavors to alleviate the symptoms of the disease, to make the patient more comfortable, and to build his resistance in the hope that he may be able to cope with the disease by means of the natural resources of the body.

There is one symptom, pain, that the physician often

can and should relieve. If for no other reason, by that power alone is his calling justified.

Frequently the disease passes away without any special medical treatment. Nature is the great healer. But nobody has a right to depend upon such a natural cure, because what appears to be complete disappearance of the affliction may be only a remission. Later, the symptoms may break out anew with increased vehemence. The false hopes aroused by remissions in the severity of a disease are a common experience in tuberculous patients, many of whom are led to believe that they are on the road to recovery when in reality their illness is far advanced. In the case of the social scourge, syphilis, many sufferers fail to be cured simply for the reason that they are not faithful in continuing treatment for the required period of three years, whether symptoms are present or not.

Recognition of Danger. The apparent paradox, true to life in general, that a danger diminishes as it is more clearly recognized, applies with great force to medicine. Although the menacing agent remains unalterable notwithstanding our evaluation of it, much depends on our selection of proper safeguards. Nothing is so dangerous as a false sense of security. On the other hand, there are circumstances when full realization of the danger only emphasizes the hopelessness of the situation. Then it is frequently more humane to allow the patient to remain in blissful ignorance of the truth, although the doctor and the next of kin should keep themselves fully informed so as to take advantage of any hope that might arise, however slight.

Discovery of the causes of disease occupies first place in medical research. But methods of prevention and treatment should also be investigated, even when the cause remains unknown. Quinine was recognized as a cure for malaria hundreds of years before the causative microbe was discovered, and in fact before germs were thought of

as causing disease. Knowledge is so hard to gather that we cannot afford to be too haughty as to the means by which it is gathered. When a certain drug or biological agent has a similarity of action in two diseases, one of known and the other of unknown etiology, this fact may help to unravel the mystery.

Medicine's Triumphs. The greatest therapeutic triumphs have been developed along the lines of bacteriological research, as applied to biology. Diphtheria antitoxin for the treatment of the disease and toxin-antitoxin for its prevention, scarlet fever antitoxin and toxin-antitoxin serum for epidemic meningitis, rabies vaccine for persons who have been bitten by mad dogs, vaccine inoculations as a preventive of typhoid fever: these are but a few of the lifesaving methods of treatment that have come to fruition as a result of intensive bacteriological study.

Biochemical study, too, has accomplished much. Witness the perfection of salvarsan (606) by Paul Ehrlich in 1910, which, while it failed to cure syphilis at a single injection as hoped, nevertheless remains today the most effective treatment for this serious disease. So also more recently insulin, secreted by the pancreatic tissue, has been isolated in pure form by Professor Abel of Johns Hopkins University and experimentally and clinically shown by Dr. F. G. Banting to be a relative curative agent in diabetes. Its value in the treatment of certain cases of malnutrition, with consequent emaciation, has quite recently been demonstrated.

Medicine's Failures. Medicine's greatest failure is in the treatment of the psychoses, the serious mental diseases. Yet, in the majority of instances, the pathologist can find no tangible cause in the brain. Heredity is so powerful a factor in the psychoses that the only successful way to combat the high incidence of insanity would appear to be

by eugenic control, restricting the offspring of persons of defective stock.

On the other hand, when we consider general paresis, an acquired disease of the brain of known etiology, the prospect is more encouraging. Today paresis is the cause of approximately 10 per cent of admissions to state hospitals. Its cause is syphilis of long duration, affecting the brain.

Fighting One Disease with Another. Relatively a short time ago, general paresis was considered incurable. An accident led to the discovery of the most effective treatment. Some paretic patients in an institution contracted malaria, which seemed to arrest the mental and physical symptoms of their disease. Hence Wagner Jauregg deliberately infected paretics with the parasites of malaria and was able to prove a decided benefit in the course of the disease. It is too early to use the word "cure," although many other investigators have confirmed Jauregg's observations. However, definite hope has entered into the treatment of a hitherto hopeless condition.

The use of one disease to fight another is a treatment that has been applied before in medicine. For instance, the growth of certain types of malignant tumors has sometimes been checked by an attack of erysipelas.

When studying the anatomy and physiology of man, the natural scientist encounters pathology at every step. The cadaver on the dissecting table is not that of a normal person, or he would not have died. As a matter of fact there is no such thing as a normal person. He exists only as an abstract being with which to compare definitely abnormal individuals.

Pathological states and their manifestations represent one of the objects of the natural scientist's research and one of his sources of knowledge. He must take a definite attitude concerning them. Among other things, he makes

use of them in constructing hypotheses to explain other natural phenomena.

For the medical man, however, human pathology is the actual pivot of his science and practice. For him it represents the indispensable in his life's work, without which he could not recognize and treat intelligently other than the simplest ailments. Without a knowledge of pathology, the physician would be reduced to the status of the empiricist of bygone centuries, who would use a particular herb because some other patient with similar symptoms had used it and recovered.

It is the ability to assemble all the fundamental facts of medicine and apply them to the case under consideration that characterizes the great physician. The various sciences thus assembled furnish him with a solid footing and guide him like a signpost or compass in the direction of correct diagnosis and treatment.

Intuition. Both the natural scientist and the physician see the healthy person, and through him their thoughts are directed toward the sick one. And, when they see the sick person, they are also constrained to think of the healthy one. This double vision is necessary for both of them, but more especially for the physician. It develops a keenness of comparison between the well and the sick, sharpened by constant experience, that ripens into an uncanny skill in diagnosis almost amounting to intuition. Some of the old masters in medicine, and also physicians now living, have been known to make difficult diagnoses almost at a single glance. And the surprising thing is that these hasty opinions have often been verified by the acid test of postmortem examination. On the other hand, any physician, no matter how experienced and brilliant, who indulges in these "snap" diagnoses too frequently will sooner or later come to grief and make an inexcusable blunder that could be avoided by more careful study of the

patient. Sheer brilliancy is permissible on the chessboard, but not when life hangs in the balance.

Why Health Examinations Are Needed. There is a popular fallacy that if one feels well he is well. Nothing could be farther from the truth. For instance, cancer does not cause pain until it has progressed to an incurable stage. Many a man with cancer of the stomach complains only of slight "indigestion" and looks perfectly robust. Many a person with tuberculosis does not consult the doctor until the disease is well advanced, simply because he feels well and his spirits keep him up.

For this reason the medical profession is urging everybody to seek a periodical (generally annual) health examination. In this way serious ailments can be detected while they are in a curative stage, minor ills can be kept from becoming major troubles, and unwholesome habits of living can be checked before they have done material harm.

On the other hand, there is the type of person (generally called the neurasthenic) who magnifies every petty ill to prodigious proportions and makes symptoms out of normal bodily sensations. When the doctor tells him that nothing is wrong, he may either be offended or conclude that he has not been examined with sufficient thoroughness. Then he starts a pilgrimage from one doctor to another until he finds a physician who labels him with the name of a serious disease.

Specialists. The field of medicine has become so vast that no one doctor can hope to master it all. Hence specialism has arisen.

Every specialist, however, is primarily a general physician. The eye specialist, for instance, cannot disregard the rest of the body. He may see in the eyes signs that unmistakably point to a kidney disorder or to a tumor of the brain. Hence he must have a general familiarity with diseases that occur elsewhere in the body.

Specialties are defined primarily by the parts of the body treated: the eye, the ear, the nose and throat, the heart, the stomach and intestines, the male or female genital organs, etc. Other specialties have arisen from the methods of treatment employed: x-ray therapy, radium therapy, serotherapy, electrotherapy, hydrotherapy, physiotherapy, etc.

The trend to specialism, which is particularly noticeable of late years, is constantly diminishing the number of physicians devoting themselves to general practice. It seems to presage the passing of the family doctor, and in this respect is probably unfortunate. From the standpoint of the patient, it is generally agreed that specialism has its disadvantages as well as its admitted advantages. Sometimes the patient is juggled from one specialist to another, no one of whom assumes full responsibility for his treatment.

Let us take a specific example of what may happen: A young woman, suffering from twitching about the eyes and thinking she needs glasses, consults an eye specialist. Finding her vision normal, he quite properly sends her to the neurologist to discover the cause of the trouble. The latter finds sugar in the urine and refers her to the metabolic specialist, whereupon the alarmed family insist that a kidney specialist must also be consulted, in view of the fact that the urine is wrong. Whereupon the latter discovers a trace of albumin and says it is very important to have an examination by the eye specialist.

These repeated examinations are expensive. They also have a harmful effect upon the patient's mental attitude. It would be much better to consult a competent general practitioner, asking *him* to recommend such specialists as he thinks may be needed.

In general, methods of treatment are divided into operative and non-operative. The terms surgery and medicine

are sometimes applied within the profession to these two great groups.

Surgery. Operative therapy is carried out by mechanical means. Removal of a diseased appendix or gallbladder comes under this heading, as does the whole category of surgical operations. Again, therapy may be bloodless but mechanical, as in the reduction of a fracture or dislocation or the reposition of a hernia. Strictly defined, the entire field of orthopedics belongs here. *Orthopedics* includes principally deformities and congenital infirmities, such as clubfoot, bow legs, spinal curvatures, etc., that may be treated by bloodless surgery.

The present era has seen a marvelous perfection of surgical technique. Anesthesia and asepsis have made this possible. Less than a hundred years ago, operations were performed with the help of a bottle of whisky and two strong men to hold the patient down. If the patient survived the ordeal, the chances were great he would die of blood poisoning. Small wonder that surgery then was almost medieval in its crudity. Today, surgeons do not hesitate to operate upon any part of the body, when occasion demands, and they can do this without pain and with a minimum risk of infection.

The surgery of the future will probably experience greater refinement in defining the *indications* for operation. When should the patient with appendicitis be operated upon, and when should the course be left to nature? Under what circumstances should the gallbladder be removed, and when should it be left alone? It cannot be said that in the present state of our knowledge the answer to these simple questions is at all times satisfactory. A decided step in this direction is the greater precision of surgical diagnosis made possible by use of the x-ray.

Non-operative therapy includes four groups of methods that are of special interest: namely, (1) the use of pharmaceutical agents, or medicaments; (2) the application of

physical remedies; (3) dietetic treatment; and (4) psychotherapy, or treatment of the mind.

“*Allopathy*.” Pharmacology, the science that deals with the action of drugs by observation of their effects on animals, has dealt harshly with the ornate prescriptions of the old-time doctors. Their simple faith in the large variety and quantity of drugs they prescribed, many of which have since been proved worthless, led Oliver Wendell Holmes to exclaim in a lecture at the Harvard Medical School: “I firmly believe that if the whole *materia medica* could be sunk to the bottom of the sea, it would be all the better for mankind and all the worse for the fishes.”

“Shotgun” prescriptions, containing many ingredients on the theory that if one failed to hit the seat of the disease another might, enjoyed great vogue. Pharmacology, or exact study of the action of drugs, was still in its infancy in the years following the Civil War, and this vague knowledge of the effects of drugs gave birth to unwarranted faith in their efficacy.

Homeopathy. The popularity of homeopathy, introduced by Hahnemann (1755-1843), had a beneficial effect in lowering the scale of dosage. His peculiar system of medicine included three fundamental tenets, no one of which is accepted today. First, Hahnemann taught the doctrine of *similia similibus curantur*, meaning thereby that diseases or their symptoms are curable by the use of drugs which produce similar effects on the body. Secondly, he believed that the dynamic effect of a drug is heightened by giving it in repeated dilutions until an infinitesimal dose is reached. This procedure inspired Bishop William Crosswell Doane (1832-1913) to write the following quip on homeopathy:

Stir the mixture well
Lest it prove inferior,
Then put half a drop
Into Lake Superior.

Every other day
Take a drop in water,
You'll be better soon
Or at least you oughter.

The third of Hahnemann's tenets was the notion that most chronic diseases are manifestations of a suppressed itch, or "psora."

Vastly different from the "shotgun" prescription and the old homeopathic system is the intelligent use of drugs as therapeutic agents today. If the doctor sees the need of a heart tonic, for instance, he has at his disposal standardized preparations of digitalis whose potency has been measured with mathematical precision by their effect on the heart of a cat or a frog. Should cod liver oil be required, he specifies a preparation that has proved its richness in vitamins A and D by curing eye disease and rickets in white rats fed on a special diet lacking these vitamins.

There is no longer blind faith in the efficacy of drugs. The cold facts of the scientific laboratory have taught physicians what can and cannot be expected of them.

Physiotherapy designates the use of such natural forces as massage, exercise, water, electricity, heat and light in the treatment of disease. Of recent years greater attention has been paid to physiotherapy.

Massage, according to a prevalent misconception, belongs to the special province of the osteopath. As a matter of fact it is a highly developed form of friction, kneading and beating, recommended by all practitioners in medicine, which, when intelligently used under medical direction, is beneficial in a number of disorders. When so employed under medical advice, it may be of great value; as a cure-all it is useless and may be dangerous.

Gymnastics. Special exercises or gymnastics find a definite place in medicine. Paralyzed muscles recovering function may be strengthened, deformities due to weakness corrected by developing the supporting muscles, and gen-

eral physical fitness improved. All of this work is best done under the supervision of a competent physical trainer who takes his directions from a physician. In the special form of Swedish gymnastics, the movements are made by the patient against the resistance of the attendant.

The general belief that exercise is beneficial to health must be accepted with reservations. Track running may produce enlargement of the heart, and vigorous exercise even in the open will hurry along an existing case of tuberculosis. Hence one must consider the extent of the exercise and the health of the person for whom it is advised.

Hydrotherapy. Water is the basis of a special form of healing—hydrotherapy. This treatment is utilized at the various spas, especially for chronic diseases. By some authorities, specific virtue is believed to reside in the mineral constituents of various spring waters. Others contend that a large measure of the benefit is due to the wholesome habits of living practiced at the spas.

Hydrotherapy may also be carried out at home. The term includes not only drinking of the water but also bathing with it—ablution, lavage, spraying, etc. In some cases bathing in medicated waters is believed to have special virtue.

Electrotherapy. The use of electricity finds many general and special applications in medicine. High-frequency currents for the reduction of blood pressure, faradic currents for the production of muscular contractions, galvanic currents for certain forms of paralysis and for alleviation of pain, may be useful.

Thermotherapy. Heat and cold are physical agents used every day by the physician. The hot water bag is employed to favor inflammation, nature's way of healing; the cold water bag, to allay pain. Hot packs are used to produce profuse sweatings; while cold tub baths or

sponges find extensive use to stimulate circulation, as in typhoid fever. Sometimes continuous hot baths are given for their sedative effect on the nervous system; for example, in state hospitals to quiet agitated patients.

Heliotherapy, or the use of sun-baths, has come into extensive vogue of late years. The ultraviolet rays of the sun will prevent or cure rickets, lessen susceptibility to colds, and improve general health. As the sun's rays are woefully deficient in ultraviolet radiation during the winter months, special lamps capable of producing artificial sunlight are frequently employed.

Radiotherapy. Of still greater importance are the special forms of radiation: α -rays and radium. The α -ray is used for treatment as well as for diagnosis and has a definite influence upon the organs exposed to it. Radium finds its greatest application in the treatment of cancer, where it sometimes cures early, superficial growths and generally prolongs life or at least allays suffering.

A number of other physical agents not considered under the heading of physiotherapy occupy useful places in medicine. Biological substances including vaccines and sera are widely employed in treatment. Blood transfusion sometimes proves lifesaving. Recently Dr. Karl Landsteiner was awarded the Nobel prize for medicine for his researches that divided the blood of different individuals into four groups, thereby furnishing a means of determining the compatibility of the blood of a donor with that of the recipient of a blood transfusion.

Diet. Every physician today recognizes the importance of diet to health. He also uses it as an instrument in treating disease.

Like the administration of pharmaceutical agents, dietotherapy has emerged from empiricism and the physician is now guided by scientific considerations, not merely bedside experience. How many calories, or heat units, does the diet he is ordering provide? Is it enough or too much to

sustain the patient? Does the diet contain the proper quantity of all the vitamins, and also of the essential inorganic salts?

Frequently the dietetic problem becomes quite intricate. Take a patient with a mild case of diabetes, for instance. The amount of starch and sugar in the diet must be restricted, but to what extent? The doctor must tell the patient not only what to eat and what not to eat, but also how much of each food. Scientific study in the field of the body's metabolism has made this possible.

Psychotherapy. Medicine reaches here, there and everywhere in search of aids and remedies for the sick. It recognizes no scientific creed or prejudice. And this brings us to a field where the contiguity between medicine and religion is very close: *psychotherapy*, or treatment of the mind.

Few people appreciate the full potency of mental influences. Yet there are abundant examples where faith, and faith alone, has cured certain types of nervous disorders. On the other hand, it is necessary to discriminate as to the actual conditions that are present when faith or psychotherapy is used as the curative agent.

Neither psychotherapy nor faith will heal a broken bone. It may make so powerful a mental impression that the patient will not be conscious of the pain. But an x-ray picture will still show that a fracture exists.

Psychoanalysis. When a pernicious chain of mental influences constitutes the essence of the illness, as in a patient with hysteria, for example, psychotherapy may effect a cure. The trouble lies in the mind, and frequently it may be eradicated by treating the mind. This is the principle of Freud's famous system of *psychoanalysis*, whereby the mental sufferer is encouraged to unburden his mind and "talk out the painful forgotten memories" that constitute the cause of the affliction.

In the same sense, the practice of confession, aside from

its spiritual significance, helps the mental sufferer by relieving his mind of an intolerable content.

The value of psychotherapy is not limited to purely psychological ills, although this is the field of its greatest usefulness. If the patient can be made happier, even physical ills are benefited thereby. For example, it is well known that consumptives are likely to improve when their minds are set at ease. They eat and sleep better; consequently, their nutrition improves. Oftentimes a happier state of mind has been a decisive factor in the recovery of tuberculous patients.

Persuasion. Another form of psychotherapy, which can be used only for persons of high cultural development, is persuasion. Here an appeal is made to the reason and by means of pure logic the patient is convinced that his symptoms have not the sinister significance that he attaches to them or that they are largely imaginary and have no physical basis; or he may be persuaded to accept whatever else the object of the psychotherapeutic treatment may be.

Suggestion is more commonly employed than persuasion. Here the appeal is made to the emotions instead of the intellect. A physician or clergyman of strong personality can make good use of suggestion. By cleverly contrived insinuations he can put hope into the heart of the cripple or invalid, when the medical prognosis justifies such hope. However, he should remember that if his promises for the future are not justified later, the sufferer may be crushed by the bitterness of his disappointment. Sometimes insinuation is not necessary. The patient has such overpowering confidence in the physician or clergyman that he will accept his mere say so without question.

Autosuggestion. "Day by day, in every way, I am getting better and better," is the message Coué had his followers repeat again and again. This is autosuggestion. Intelligently prescribed in suitable cases, autosuggestion could occasionally be used to advantage. But, when recommended

for corns, bunions and dandruff, it falls from science into quackery. Not being a physician, Coué claimed cures that were unjustified and his diagnoses accepted the patients' statements as facts and were not substantiated by proper physical examination. Hence autosuggestion has fallen into disrepute.

Hypnosis is a means to an end rather than a special form of psychotherapy. Suggestions made under hypnosis are more readily received and more forcibly acted upon. Also, psychoanalysis is often more satisfactorily conducted. The principal objections to hypnosis are the difficulty of inducing it in some cases and the general fear of the public that they are thereby placing themselves in another's power.

Mental Hygiene. The recognized importance of mental influences has led to a new branch of human endeavor: mental hygiene. Much can be accomplished by regulating the lives of maladjusted persons, particularly at the age of adolescence. At this period, those harmful traits that tend in the direction of crime or insanity may often be nipped in the bud, as it were. Morose, deceitful, shut-in personalities may be shown the way to a happier mode of living.

Recognizing all that can be accomplished by mental hygiene, it is equally important to admit its limitations. Our prisons and state hospitals will remain overcrowded, because defective hereditary stock is the essential cause of crime and insanity. Mental hygiene, however, may do good by removing the environmental evils that contribute to these social wrecks.

Institutional Versus Home Treatment. Effective treatment of all types of disease frequently demands the cooperation of social agencies. This brings up the matter of institutional care as distinguished from the private practice of medicine.

Originally a refuge for the penniless, hospitals and other institutions have become the accepted locale for the treat-

ment of persons of any social status, when the circumstances of their illness warrant admission. Here equipment and personnel to meet any emergency are, or should be, constantly available. Hence the hospital is admitted to be the logical place to perform an operation or care for a person with a serious or prolonged illness.

Again, circumstances may compel admission to a hospital. The patient's surroundings may be such that it would not be possible to care for him properly at home. Poverty, insufficient food, or the ignorance of those who would be called upon to attend him would make home treatment ineffectual, no matter how competent the doctor might be. In the case of mentally disturbed patients, there is the constant danger of suicide or other violence, against which only the facilities of an institution are able to offer protection. Contagious diseases would subject the relatives and attendants to grave danger, if the patient were cared for in the home. If the patient cannot be removed to a special hospital, those who take care of him should receive special instructions from the doctor for their own protection.

On the other hand, the average illness is probably best treated in the home, when the patient is surrounded by intelligent and sympathetic relatives. His morale is always improved by the knowledge that he is home. The routine of the hospital, whereby the patient becomes merely a cog in the vast wheels of institutional machinery, is distasteful to most sick persons. That is the essential reason why many of them complain bitterly of hospital treatment.

When a patient has been discharged from an institution, we are frequently called upon to treat him for "institutionalism," meaning thereby a loss of self-reliance and a spirit of dependency frequently acquired by inmates. This is one of the recognized psychological evils of our institutional system.

Contrast with this routinism the direct personal rela-

tionship between doctor and patient, which all agree is the most satisfactory form of medical attention.

Prognosis. The most inexact branch of medicine is prognosis, an attempt to forecast the probable course or result of a disease, or the chances of recovery, from the nature of the disease and the symptoms in the individual case. Prognosis depends upon so many variables that precision cannot be expected of it. If there is a mistake in the diagnosis, obviously the prognosis is changed completely. Then, assuming that the diagnosis is correct, no two attacks of the same disease are of equal severity and no two patients resist it with equal efficiency. In a case of pneumonia, for instance, one cannot feel sure that the patient is going to recover until he is on his feet again, nor that he is going to die until he has stopped breathing.

Yet a prognosis is demanded. If the physician cannot give a forecast in terms of *certainty*, he must do so in terms of *probability*. Human relationships must be adjusted in some way. Is it safe for this woman with a heart affliction to marry? Will this man with melancholia, requiring him to be committed to an institution, recover to the extent of being able to resume his business? Can the doctor give his approval to the proposed marriage of a man who has had venereal disease in the past, or is there danger that the wife will become infected?

The responsibility involved in answering questions of this kind is great. An error of judgment or an unseen contingency may lead to serious consequences. This tremendous moral obligation, fraught with possibilities for good or evil, explains why reputable physicians are so exceedingly conservative in making their prognoses.

In every instance, prognosis is made according to the merits of the case under consideration, not by a general rule.

Chapter V

THE LIMITATIONS OF HIS PROFESSION

MEDICINE is one of the sciences which not only asks but demands that it be practically applied. For this reason the science of medicine can with difficulty be kept apart from the art of medicine, and the medical craftsman becomes the physician.

SCIENTIST CANNOT BE PRACTITIONER

The enviable state for all physicians would be that in which the true scientist, investigator and practical doctor are combined. This ideal combination, however, can exist in only the rarest instances. This is so because the practice of medicine of itself is so strenuous, so time-consuming, and so exhausting physically that ordinarily it cannot be combined with original study and independent investigation for any prolonged period.

For only the few favored children of fortune is this possible. This desire can be realized by only those few who, as teachers of some particular branch at a higher seat of learning, have at their disposal a special clinic with its necessary clinical material; or by those who occupy a position of such economic independence that they are able to limit their practice and make it secondary to their other work. Such medical men may, under certain circumstances,

achieve extraordinary success in both the science and the art of medicine. Whatever special branch of science they then may follow may be fostered and aided by their general practice. Their practice, on the other hand, will receive the benefit that they themselves have derived from their scientific work. The toil of their practical endeavors is mitigated by the attraction and fascination exerted by their special studies and investigations.

Demands of a Medical Career. In direct contrast to this is the necessarily self-denying, unobtrusive, modest career of the general practicing physician. His work is surrounded by little or no glamor and is incomparably more affected by the strain and drain of persistence and endurance. This is especially true of the country physician far from the encouraging influence of the professional and other mental stimulus offered by a large community life with its freely obtainable professional literature, its personal association with mentally gifted colleagues and its close contact with all manner of social and cultural organizations.

At any time this country practitioner may have to face the unavoidable problem of doing the right thing under unusual and most difficult conditions. He may have to assume obligations which in a larger community would fall only upon the best specialist. In spite of the widespread call for specialization and in spite of the limitations of actual conditions, the general practitioner still occupies and probably always will occupy an impregnable position in the medical profession. Yet in view of the extensive and intensive development of modern medical science, he cannot be expected to be able to meet the requirements of practical life and at the same time become an independent scientist and original investigator.

Science Versus Practice. In recent times it has been repeatedly stressed that science and practice constitute an indissoluble entity. But there is no question that the practice of medicine is weighted down by dross and slag from

which the science of medicine is free; and the science is unable to loosen many a knot which practice severs. A certain factor of trouble and contradiction that is rooted in and forms part of the entanglement of life never penetrates the walls of the scientific study. Very many pains and pangs which overflow the lowlands of everyday life are never perceived in the study or in the laboratory.

Medical science in its most distinguished form is represented by research, which is passed on by the teachers in our higher schools of learning. Through their position all these teachers in our colleges and universities are given a certain necessary economic foundation which enables them to pursue their calling unhampered without being obliged on account of economic conditions to compete for public favor or to manipulate their writings to accord with the whim of the literary market. I do not intend to imply that those who occupy professorial positions are thereby freed from all the material worries of life. The confidence which has raised them to their position must constantly be preserved and retrieved. This often cannot be accomplished without crushing social friction, misunderstandings, and hostilities of colleagues and of persons connected with the management of the university. Of course, they have their troubles and material worries; of course, they are dependent on others to some extent.

However that may be, one thing cannot be contravened: that in their relatively secure positions, with their relatively certain revenue from fixed salaries, often augmented by fees from outside consultations and possibly some income from literary productivity, they are freed from the spirit-crushing worry entailed by effort to secure their "daily bread." This is in clear contradistinction to the majority of their colleagues engaged in the general practice of medicine.

The Struggle for Daily Bread. Here, among the general practitioners, just as in other higher vocations, the modern

development of all civilized countries has caused an over-production so that in many cases the average income of the general practitioner is very low. The fact is well known that the average physician is able to collect bills in only 60 per cent of the cases where he has rendered professional service.

THE DOCTOR VERSUS THE BUSINESS MAN

The practicing physician has other limitations which distinctly prevent him from increasing his clientele through any visible effort except serving his patients professionally to the best of his ability. Unlike the business man, he may not make any effort to secure patients. Medical ethics ordain that the physician may not go to the patient on his own initiative. He may not go out to seek patients nor offer his services. He must await the patient's visit or attend him only in response to his call, except in case of accidents requiring emergency treatment.

Again, the physician may make no attempt to capture patients by means of advertising, by fee-splitting, or by underbidding his competitors. He has doubtless made great sacrifices in order to carry on his studies. He wants to live decently and to maintain his family in a manner befitting his station in life. In fact, he is obliged to live in a style commensurate with the position he occupies in the community. All this requires money. Yet the ethical limitations of the profession prevent him from employing any methods to increase his clientele other than the practice of his profession. Medical ethics make no provisions which will enable the physician's practice to furnish him with ample means of support and which will make the proceeds of his exhausting professional activity sufficient for a helpless old age or provide him with savings ample to care for his family in case of his early demise. For him, professional ability represents the sole weapon a decent man may employ in the struggle for existence.

ETHICAL LIMITATIONS

The reputable physician disdains to speak ill of another physician in order to derive benefit from an error the other may have committed. He claims no merit that belongs to a colleague; he does not strive to rise at the expense of a competitor. When the competitor is incapable, the tactful physician may not drive him from the field by derisive or deprecating remarks. He may only prove himself the more efficient. Tact and professional ethics oblige him to sacrifice an advantage rather than sacrifice his own self-esteem.

Professional Tact. In his professional relation with the patient a physician must often subordinate himself and his personal viewpoint for the welfare of the patient. The physician is also bound by professional ethics and his interest in his calling to be tactful and considerate of his patients, whatever situation may arise. Unlike certain people in business life, the true follower of Hippocrates makes no distinction in his clientele. He shows the same solicitude and care in the homes of the poor as he is expected to show in those of the wealthy. He must treat the gentle and the irascible with the same consideration.

For the physician, all patients are human beings who need his help. His duties must not be influenced by the size of the fee they are able to pay. The assumption that people in poor circumstances are not so sensitive and need not be treated with the same consideration as the well-to-do is fallacious. Such people are often more hurt than one would suppose when the physician, through a supercilious expression or an uncivil tone of voice, shows that the welfare of the patient is not his prime consideration.

Disagreeable as the atmosphere of poverty may be, and difficult as it may be for a person of culture and refinement to spend much time in coarse and uncleanly surroundings, the physician has no right to give expression to his actual feelings toward the unfortunate sufferer. Insolent demands

are often made by patients in charitable institutions, but these must be repulsed with quiet determination; for having voluntarily undertaken to care for these people, the physician must show them the same consideration that he would show patients of means.

Safeguarding Patients. A much more difficult test of the physician's sense of tact presents itself when for diagnostic or therapeutic purposes he is obliged to request a female patient to expose her body. A woman's natural sense of modesty rebels against such a request and it is not always easy to overcome her opposition even when her failure to do so may entail continued ill health. The situation is often so awkward for both persons that the necessary examination is not carried out or gives way to one which does not require any exposure and is not so thorough or reliable. The opposition offered to the proposed examination will often be an indication of the patient's sense of modesty and from it the physician may decide whether, in the particular instance, the wrong to the patient's feelings or an abandonment of the proposed examination will constitute the greater evil. The decision is one which the physician's conscience and tact must determine.

High professional ethics and tact demand that the physician safeguard a woman against herself, if necessary. Certain patients, particularly those inclined to hysteria, purposely bring about such examination even when it is entirely unnecessary, from motives that can only be characterized as erotic. A physician, after all, is but human and may succumb to temptation in the face of such advances. Habit, however, renders him more or less callous. The exercise of his profession carries with it a concentration of his attention upon the symptoms of disease and directs his thoughts to the scientific examination and treatment of the patient, so that the exposure of person would be less of a temptation to him than to man in general. Under all circumstances, for his own protection, a physician should

not examine women with such erotic tendencies except in the presence of witnesses.

Professional Secrecy. The physician is also bound not to disclose family affairs or other matters that have become part of his knowledge through confidential communication or as a result of his own observations. It would not only be a punishable breach of confidence but also tactlessness of the most flagrant nature if, after relations between a patient and his physician had been interrupted or severed, the physician should make use of his knowledge of the patient's affairs in order to pander to a salacious curiosity. He may break this rule of silence only if his reticence would bring misfortune to innocent parties. Even in such instances the tactful physician will always seek and will often find ways and means for protecting the innocent without exposing the guilty.

It is more difficult to determine the extent to which a physician is bound by professional secrecy to decline to testify in court. In a general way it is my belief that professional secrecy does not permit him to serve the state by giving testimony and that his professional obligations should prevent him, without the most urgent need, from publicly mentioning names and happenings which have become known to him not as a private individual but as a physician and confidential adviser. As a general rule, the courts recognize the immunity of physicians from being compelled to give testimony that would violate the professional confidence of their patients.

Wandering Patients. Professional success and genuine satisfaction in professional work are often limited by the wandering of patients from one physician to another, and to non-medical practitioners. Many patients are so constituted that either consciously or unconsciously they misuse their bodies over a period of years but expect to be cured of the resulting disease or disability in a few weeks. Be-

coming quickly discouraged they wander from one physician to another in search of speedy relief.

In recurring diseases or in those where no permanent cure is probably possible, still the patient clings to hope. If the first physician whom he consults does not bring him relief, he quickly turns to another. But the physician who is to maintain interest in his work cannot permit aspersions from the outside to enter his emotional life. He may not allow ingratitude and injustice to embitter him and take all the joy from his work. Permitting himself to be affected by these things would take from him that emotionally significant possession upon which every physician relies most—the confidence of his patients.

Non-medical Practitioners. The physician must also restrain his impatience against nature healers and other self-styled practitioners of medicine. While they may possess a certain amount of intelligence, education, and practical industry, they must soon realize that on account of their inadequate fundamental training, they cannot be equal to their task. They can never keep the promises they are constantly making. But having strength and power by reason of his knowledge of the nature of people and things and because of consciousness of his mission, the physician must and will overcome the inner upheaval he experiences at such incongruities.

THE PHYSICIAN NOT GUARDIAN, OR TEACHER, OR PASTOR

Because of the dissimilarity of his profession to others and because it includes such a diversity of duties, the physician is often called upon to assume obligations and relationships which he was never intended to carry. The physician is a *physician*. He is not the godfather or employer, not the guardian or dictator, not the trainer or teacher, not the attorney or the pastor of this client. In other words, he should limit himself to his profession. He is not the

embodiment of human society, as so many people seem to think.

To him falls the care of the individual, insofar as that individual may be influenced by health or disease. He should not be called upon to concern himself with the entire life of the patient, much less with his social relations. These other elements enter the picture only when they may have a bearing upon health or disease. A business man, for instance, may break down both physically and nervously because of overwork. His physician may advise him to curtail his activities or to give up his work altogether for a period. Even here the physician is not in a position to command and control, but can merely advise. He can advise authoritatively but beyond that he has no power.

Only in a few instances is his authority unlimited. This is the case when a patient lies upon the operating table under anesthesia, or when a person suffering from mental disorder has been legally committed to an institution licensed for the care of such patients.

His Authority Limited. More particularly does the efficiency of the physician suffer obvious limitations or modifications according to the standing of the patient in society, his personal relations and above all, his economic position. Failure to carry out the physician's recommendations, whether through lack of faith, for economic or other reasons many times prevents successful termination of the case.

Sometimes a change of climate represents the sole chance for recovery of a person whose means or personal obligations will not permit him to follow the physician's advice. For that reason alone the patient may go into an irremediable decline. I recall a young man with tuberculosis who was employed in an office. His condition demanded that he remove to a drier climate and live out of doors. Unfortunately he did not feel that he could leave his aged and ailing mother. In fact, he would not even tell her of my advice for fear of its adverse effect upon her. I could not command

him to go. Finally he died, a sacrifice to his filial obligation to his mother.

By Disregard for His Advice. Several years ago a successful manufacturer consulted me. He was interested in many enterprises and worked evening after evening. I warned him that he was wearing himself out both mentally and physically and advised him to curtail his work to four days a week. He insisted that this was impossible because of the demands which important affairs made upon him. Only a few months later he suffered a complete physical and mental breakdown, from which he has never recovered. Lack of real authority prevented me from carrying out a treatment which would have saved him.

By Patient's Environment. Sometimes the patient suffering from a psychic disorder requires diversion and social contacts which seem impossible under the circumstances. Such a case was that of Miss B., a sensitive girl of good breeding who had come to New York to earn her living. Her immediate family had died and she seemed to have no other relatives. She was one of those lonesome people who "have no one." In the metropolis no one was concerned or cared about her; in the midst of this large city she was more lonely than a person shipwrecked upon a desert island. With her retiring disposition, her lack of friends, and very limited means, there seemed to be no remedy for the situation and her condition grew steadily worse.

By Patient's Relatives. Other obstacles to the physician's efforts may also be the attitude, the lack of insight, the indolence, or the parsimony of the relatives upon whom the patient is in any way dependent or to whose influence he is exposed. In such instances, the good intentions of the physician are all too easily crossed and obstructed.

Lack of cooperation in the home often nullifies excellent medical advice. Take the case of two sisters, one overweight and the other underweight. The physician places the former on a reducing diet and the latter on a highly nutritious

diet calculated to increase weight. But Mother promptly interferes when she sees the stout girl turning away food, because this sister has always been a hearty eater. Nor does she approve of the heavy eating of the frail sister because she is not accustomed to see her partake of so much food.

Instances like this in which the head of the household presumes to substitute his or her personal opinion on health matters for the expert advice of the attending physician are much more common than would be supposed. They constitute a prolific cause of defeat in carrying out medical treatments.

By the Patient Himself. All the more do those obstacles limit the physician in his therapeutic endeavors when they apply to the patient himself rather than to his surroundings. As a matter of fact, the greatest barriers to the physician's efficiency often depend upon the disposition, training, lack of knowledge, lack of discipline, want of self-control, and weakness of character of the patient himself. Much more often than many physicians themselves recognize, their efforts prove unavailing because the patient is suffering in some way from distress and worry, frequently of social origin. Sometimes he has a "skeleton in the closet" and fears social exposure in the shape of denunciation, venomous accusations or slanderous remarks. It is no exaggeration to say that more than 60 per cent of the wealthy, neurotic women who consult a physician have a skeleton in the family closet; they are divorced or wish to get a divorce; or they do not have enough of real importance to occupy their minds and so concern themselves with imaginary troubles or greatly magnified minor ones.

Take the case of Mrs. N. whose life was one of constant selfish desire. She loved her husband as a provider but his chauffeur as a man. To her physician she complained of insomnia and a host of nervous symptoms, but they all came down to a constant conflict between ungratified sexual desire and an overpowering fear of detection. If she could

have been taught the wholesomeness of an unselfish attitude toward life, her symptoms would have vanished without recourse to the pharmacopeia.

Again, some sensitive patients are unable to resign themselves to certain phases in their lives that are past and gone, to certain things they have done or left undone. In the daily endeavor to find and to harmonize themselves with themselves and with the world at large, they consume body and mind by self-accusations and self-excuses. In an endless chain they permit the success of today to be overshadowed by the fear of tomorrow's calamity.

In all such cases the physician is most emphatically limited in his therapeutic endeavors. The physical and dietetic measures which he prescribes do not bring adequate relief and all medicaments are merely alleviatory in temporary acute crises. The physician is helpless under such circumstances, while the actual trouble goes on throwing forth new roots and tendrils.

If the physician prescribes certain methods of treatment and his recommendations do not receive proper support, one can easily see how his medical knowledge and ability are limited in their application. The physician who has not the proper authority and the necessary cooperation of the patient cannot carry the responsibility of the treatment.

Physician Not a Social Adviser. Limitations of time and a large number of patients do not permit the physician to be a social adviser. Where social and other external factors have such an important bearing on the case, in many instances the patient seeks his physician's advice; the latter necessarily acts as a social adviser. It is quite true that the beloved family physician of twenty years ago and many of our general practitioners today know more of the troubles, tragedies, hopes and ambitions of the families they serve than perhaps anyone else in the community.

With marvelous fidelity, Helen Ashton has shown how Doctor Serocold carried the secrets of his town folk in his heart and became their spiritual as well as physical adviser.

The growing trend of specialization, however, is rapidly destroying the close personal relationship between physician and patient which makes possible beautiful characters like Doctor Serocold.

COOPERATION BETWEEN PHYSICIAN AND CLERGYMAN

Here is a place where clergymen of all faiths may work together with the physician—to assist in leading the members of their communities to better physical, mental and spiritual health. For those who come to him for advice, the sympathetic pastor, priest or rabbi may help unravel many a moral or mental difficulty which has adversely affected physical and mental health. There is even great psychic benefit if the troubled person can merely “pour out his troubles” to a sympathetic and understanding ear.

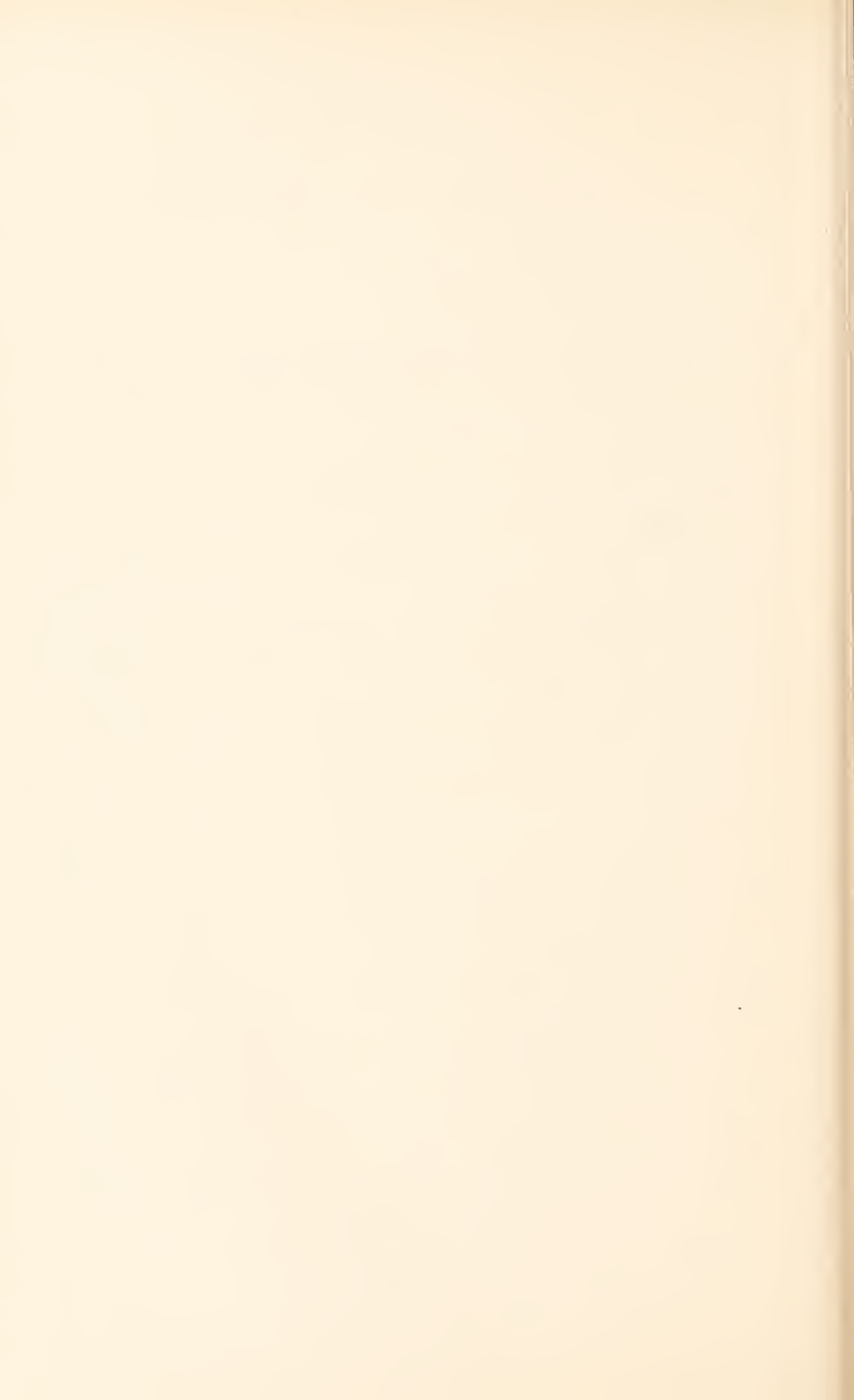
The clergyman may advise in cases of family friction; and there his helpful counsel may show the way to the removal of obstacles which will aid the physician in his treatment of physical or psychic disorders.

Again, the clergyman may convince a person coming to him for counsel that nothing can be gained by constant remorse over past misdeeds and that he should put these completely out of his mind and “make a new start.” The clergyman’s helpful and continued encouragement of such people will most certainly give the physician a better basis upon which to work in his treatment of them.

In many ways clergymen can constantly aid the physician and many are already doing this—disseminating practical social, moral and hygienic advice from the pulpit, giving talks to various organizations on social and moral problems of the day, holding private conferences with individuals. There is no question but that to many thousands of people religiously inclined such advice coming from a clergyman has particular weight. It will therefore be all the more effective in aiding the listener to regain physical and mental health and peace of mind when he comes to the physician for treatment.

PART II

RELIGION AND THE PATIENT



Chapter VI

SUPERSTITION, THE MOTHER OF MEDICINE AND RELIGION

THE fascinating stories of medicine and of religion have run a singularly interwoven course down through the ages. Blood brothers at conception, like an ancient Romulus and Remus, they suckled at the lugs of a common wolf mother, the superstitious fears of the people.

Now inextricably interlocked, now converging, now diverging, in the words of the late Dr. James Gregory Mumford, both religion and medicine throughout all ages have been intimately concerned "with great men and small men—with philosophers and scientists, with monarchs and ecclesiastics, with scoundrels and humbugs."

When founded on credulity and superstition, religion and medicine have been reactionary and arid. When intelligently tolerant and selective of new ideas, they have been inspiring and richly progressive. Whatever *rapprochement* of religion and medicine is possible today will depend on how much each is inclined to eschew infallibility and to retain a flexibility of mind in the presence of ever-changing conditions.

PRIMITIVE SCIENCE AND RELIGION

Investigation of the folk lore of ancient and modern primitive peoples reveals a striking similarity and solidarity of content. The prehistoric savage as well as the savage of today, terrified by the upheavals of nature, by swift and sudden death, by pestilence and disease, has set up elaborate systems of conduct on how to live. His religion, conceived in fear, has explained to his satisfaction the inexplicable. Simultaneously protective against the onslaught of the unknown, he has elaborated his "medicine," a complicated system of charms, spells, rituals and plant concoctions, to stave off the curse of evil spirits or the wrath of the gods.

With primitive peoples, ancient or modern, the dividing line between religion and medicine is exceedingly difficult to trace. Like Spanish moss on our southern trees, parasitic growths of age-old superstitions and faulty reasoning encumber to a surprising degree the religion and the medicine of our so-called modern civilization. On the other hand, there has come down to us a rich heritage of scientific advancement nurtured in religious regimes of the past.

Nature, Animal and Fetish Worship. The common denominator in primitive religious medicines, or medical religions, is the belief that a host of invisible spirits, gods or demons activated disease and health, life and death, and all natural phenomena. Savage man worshiped the sun, the moon, the elements, mountains and trees. He extended his worship to oxen, reptiles, cats, dogs and birds. From animal worship, with the acquisition of tools and skill in carving, it was an easy step to idol and fetish worship. Propelling his thought still farther into the unknown, he bowed in awe before the spirits of the human and animal dead, or ascribed disease and ill-fortune to black magic directed against him by human enemies.

Black Magic and White. Whether the gods existed as natural phenomena, animals or spirits of the dead, the intermediary high priest or medicine man practiced black magic for producing disease, evil and death, and propitiated the gods with white magic for averting calamity and promulgating good fortune.

HERBS AND PHARMACOLOGY

The initial separation of definite pharmacological therapy from magic, ceremonials and rituals is difficult to trace. It is conceivable that it was from observation of bodily reaction after a vegetarian diet that primitive man may have acquired his knowledge of herb lore. Certain it is that his materia medica was extensive, if not always therapeutically specific, and that there gradually arose specialists in herb lore and primitive surgery, such as trephining of the skull to let out the demon, in contradistinction to the priests, adept in administration of ceremonials. The process of separation has extended over thousands of years, with the ancient interrelationship still existent to a more or less logical degree, depending on peoples, countries and brains.

EGYPT, MOTHER OF MEDICINE

Our knowledge of the earliest known historic medicine is bound up in the rise and fall of the intricate culture of old Egypt. From the crudity of 3400 B.C. Egypt's civilization reached colossal complexities, to lapse gradually into decadence during the centuries preceding the Christian era. As in prehistoric times, religion and medicine were closely supplementary, though medicine had extricated itself as a definite quasi-scientific entity, with character and delineations of its own.

Im-hotep, the First Known Physician. The earliest known physician, Im-hotep, was "He who cometh in peace." He served the Pharaohs of the period 2980-2900 B.C., became

a god and was long after his time glorified as a dispenser of health.

Egyptian physicians accumulated a large number of remedies and prescriptions. From their skill in compounding drugs, we trace the origin of our modern word "chemistry," the black art, derived from *chemi*, meaning *The Black Land*, which was the ancient name of Egypt.

Black Magic, Herb Lore and Surgery. Black magic attended the administration of Egypt's multitudinous herbs and simples, for we learn from historical records in what high esteem the populace held the wearing of protective amulets. A famous papyrus, found at Thebes and dating back to 1550 B.C., details and diagnoses a variety of diseases, for which it prescribes nearly a thousand mineral and vegetable remedies and includes a generous number of incantations. The very valuable medical papyrus of 1600 B.C., now in the hands of the New York Historical Society, devotes seventeen columns of script to injuries and surgery of the head and chest and five columns to incantations against pestilential winds and for the rejuvenation of old men.

It is probable that Egypt's only contribution to healing progress was her influence upon early Greek medicine. Certain it is that the Greek historians were very familiar with the medical and religious practices of the Egyptians and their method of embalming. It was Herodotus who described the magnificent health of the Egyptians and described their elaborate systems of hygienic baths and monthly purges, emetics and clysters.

With the stagnancy of enterprise that characterized the latter days of Egypt's glory, her medical progress, too, became static and decadent. Her healing art passed entirely into the hands of the priests. Egypt's scientific medicine was dead. Whatever intrinsic value it had possessed was preserved for future generations through absorption by other nations at the height of her culture.



FIG. 3. IMHOTEP.



BABYLONIA

While Egypt was working out her destiny in the valley of the Nile, there was being elaborated in Mesopotamia a civilization which spread out like a flame through the Orient, touching off here and there the conflagration of true enlightenment.

Prognosis by Astrology. As in other primitive countries, the beginnings of Babylonian medicine originated in her religion. The ancient Babylonian priest, skilled in star lore, utilized his astrological knowledge to govern human fortunes and misfortunes. He filled the air, the earth and the water with demons and canted long litanies to exorcise them when they afflicted the people with fell diseases. The Babylonian priest-physician "made medicine" by consulting the signs of the zodiac, and prophesied the prognosis by augury of the symbols. His therapy was ritual, litany and the application of folk lore remedies, many of which were filthy, to disgust the demon so that he departed from the body.

Prescriptions in the Marketplace. It is noteworthy that the talent for accurate observation, which the Babylonians exhibited in mathematics and astronomy, was eventually extended somewhat to the healing art. For we are told that they took their sick to the marketplace so that those who passed by could advise what remedies had effected their cure when they were similarly afflicted. So rigid was the moral aspect placed upon this requirement that no one was allowed to pass without inquiring into the nature of the sick one's ailment.

Such compulsory investigation could not help but build up empirical knowledge. Several thousand years before Christ their medical profession had become definitely established and specialized, with a doctor for every disease.

Communicable Disease. Though their medicine remained bound in superstition, they contributed to pos-

terity a vague perception of public hygiene through their assemblage of the dead upon the battlefield and burial in huge trenches. They likewise came to recognize the contagious character of leprosy, and their policies of segregation were a heritage for future generations.

THE HEBREW RELIGION AND PROPHYLAXIS

Contemporaneous with the growth of Babylonian medicine, the Hebrew religion was imprinting a prodigious influence upon Jewish public hygiene.

According to Hebrew belief, disease was a manifestation of the wrath of God. "And there went forth a wind from the Lord and brought quails from the sea . . . and while the flesh was yet between their teeth, ere it was chewed, the wrath of the Lord was kindled against the people, and the Lord smote the people with a very great plague." "If ye will not hearken unto me," commanded the Hebrew Lord of Hosts through his spokesman, Moses, "I will even appoint over you terror, consumption, and the burning ague."

Pioneers in Preventive Medicine. While it is not known that the Jewish priests ever assumed the rôle of physician, their strict enforcement of hygienic measures for sanitation and for prevention of contagion does them high honor as pioneers in preventive medicine. They have been called the founders of prophylaxis. There were apparently strictly secular Hebrew physicians, for "Asa in the thirty and ninth year of his reign was diseased in his feet, until his disease was exceeding great: yet in his disease he sought not to the Lord, but to the physicians." We are further informed that for his temerity Asa slept with his fathers and died in the one and fortieth year of his reign.

The prophylactic program of the ancient Hebrews included the most rigid dietetic control, military hygiene, sex regulation, the prevention of contagion and its segregation, and elaborate rules of disinfection. They were especially adept in the diagnosis and segregation of leprosy,

diphtheria and gonorrhea. They were strictly forbidden to eat the flesh of diseased animals. Their autopsies upon slaughtered animals to determine what was fit or unfit for consumption served not only as a dietary precaution but gave them a more intimate knowledge of anatomy.

Prophylaxis Tinged with Superstition. Like other religious medicines of the times, Hebrew prophylaxis was tinged with age-old superstition. Excellent as were their regulations concerning disinfection and segregation of leprosy, the magic method of getting rid of the disease by transferring it to a bird is described in the Old Testament of the Bible in ritualistic detail:

Then shall the priest command to take for him that is to be cleansed two birds alive and clean, and cedarwood, and scarlet, and hyssop. And the priest shall command that one of the birds be killed in an earthen vessel over running water. As for the living bird, he shall take it, and the cedar wood, and the scarlet, and the hyssop, and shall dip them and the living bird in the blood of the bird that was killed over the running water. And he shall sprinkle upon him that is to be cleansed from the leprosy seven times, and shall pronounce him clean, and shall let the living bird loose into the open field.

Whatever primitive superstitions were entangled in the strict codes of this ancient people, their hygienic measures reached a high standard of excellence and gave invaluable impetus to preventive medicine.

PROGRESS IN INDIA

Let us now move eastward during these centuries of the rise and fall of primitive nations, taking cognizance of the interweavings of religion and medicine in the Orient. In India, the earliest records gave evidence of complete submergence of therapy in religious spells and incantations against disease demons and nefarious witches and wizards.

Again the vehicle of medical endeavor is the church. From about 800 B.C. to 1000 A.D. the Brahman priests played a double rôle as arbiters of religion and the art of

healing. They enumerated more than a thousand diseases and as many herb remedies. The relationship of malaria and mosquitoes was known to them. Their peoples were warned to desert their homes when the rats began to die upon the roofs of the houses, as of a plague.

Early Surgery. By far their highest medical achievement lay in their knowledge of operative surgery. The *Susruta*, a stupendous compilation of their medical lore in the fifth century of the Christian era, describes 121 different surgical instruments. They employed practically all of the most usual operative procedures and certain of their superior methods are in use today, such as their operation for cataract and treatment of fractures with bamboo splint. The use of hypnotism in suggestive therapy has undoubtedly been derived from Indian culture. They were also well versed in plastic surgery and skin-grafting.

As with other nations, conquest took the torch of advancement from their hands, passing the sacred flame on to other peoples and countries.

PROGRESS IN THE ORIENT

Curiously enough, politics fostered the beginnings of legendary Chinese medicine. It was China's emperors and her prime ministers who delved into plant lore, medical decoctions and the nation's crude and mystic understanding of anatomy and physiology. In the thousand years before Christ a system of state medicine is believed to have existed, with state examinations and annual reappraisal of each doctor's qualifications.

Following the introduction of Buddhism in 68 A.D., the heavy hand of religious inhibition was laid upon medical endeavor. In the conflict between the Buddhists and the Taoists, healing was bedeviled with magic, charms and incantations. The Taoists searched for the Golden Pill, by which their dream of a long life might be fulfilled; and alchemy rose in ascendancy, strangling advancement for

hundreds of years. Even to the present day, the religions of China, counseling ancestor worship and blind following of the past, have discouraged all medical advancement.

In Japan, the course of healing was patterned closely after Chinese medicine, and Japan's priest-physicians were sent to China for their training. In both nations, it has remained for the churches of the other side of the world to take a long leap over centuries of Japanese and Chinese inertia to introduce modern medical methods. The first modern hospitals and medical schools in China and Japan were developed by foreign medical missionaries. Since then similar organizations have been founded governmentally and as private philanthropic projects.

To ancient Chinese medical mysticism we are indebted for a worthy knowledge of finger-printing, massage and many drugs of value even to this present day and age.

THE GOLDEN ERA OF GREEK MEDICINE

With the ascendancy of Greek civilization and her illustrious philosophers, gymnasts and sculptors, medicine attained a dignity which previous centuries of religious domination had never accorded. In the fifth century B.C. Hippocrates, the great physician of all time, revered for the humility, dignity and beauty of his teachings, definitely separated medicine and theology. His was the first attempt at the founding of a rational science.

Previous to the time of Hippocrates, Grecian health was at the mercy of the gods and goddesses, who produced or cured disease at will. Therapy was a process of averting disease by ritual sacrifice or expelling it by rites of propitiation. The temples of the gods in the hills were vast and magnificent resorts of health where the physician-priests bathed, massaged and prescribed rest to their patients, with accompanying prayers and sacrifices.

The healing art was likewise studied by secular medical men, by the philosophers and the gymnasts. There were

midwives, professional druggists and root-gatherers. Medical study, however, was entirely private and unorganized.

"To know is science."—*Hippocrates*. With Hippocrates there began the age of reason in medicine. Observe the facts, accept no other authority, deduce only from accurate observation, he exhorted. The humility of Hippocrates made him great down through the ages, and he gave to medical posterity its highest moral impetus. His Hippocratic Oath, of lofty and inspiring declamation, is administered to our present-day physicians. He was intellectually honest and recorded his failures as well as his successes for future generations to study. "To know is science. Merely to believe one knows is ignorance," he wrote.

After Hippocrates, Greek medicine broke up into controversial schools, indulging in loud argument and speculations, "signifying nothing." Not until six hundred years later was there another physician whose name shone with sufficient luster to illumine the bleakness of unproductive centuries to come. The weight of governmental authority and the center of Greek medical knowledge had shifted to Rome. In the second century A.D. the next great physician was Galen, a Greek practitioner in Rome.

Galen and Deductive Science. Galen was the founder of experimental physiology. He had neither the humility nor the intellectual honesty of Hippocrates. Quick to theorize, he frequently failed to base conclusions upon accurate and extensive observation. According to his own records, he almost invariably "cured" his patients and he glibly described the cause of every phenomenon. He instituted an elaborate pharmacopeia of vegetable simples; and from his study of apes, swine and oxen he acquired crude anatomical knowledge, by which he explained human anatomy speculatively and often erroneously.

Galen's valuable contribution to enlightenment was his idea of the deduction of truth from experimentation. He fell short of the true greatness of Hippocrates because he

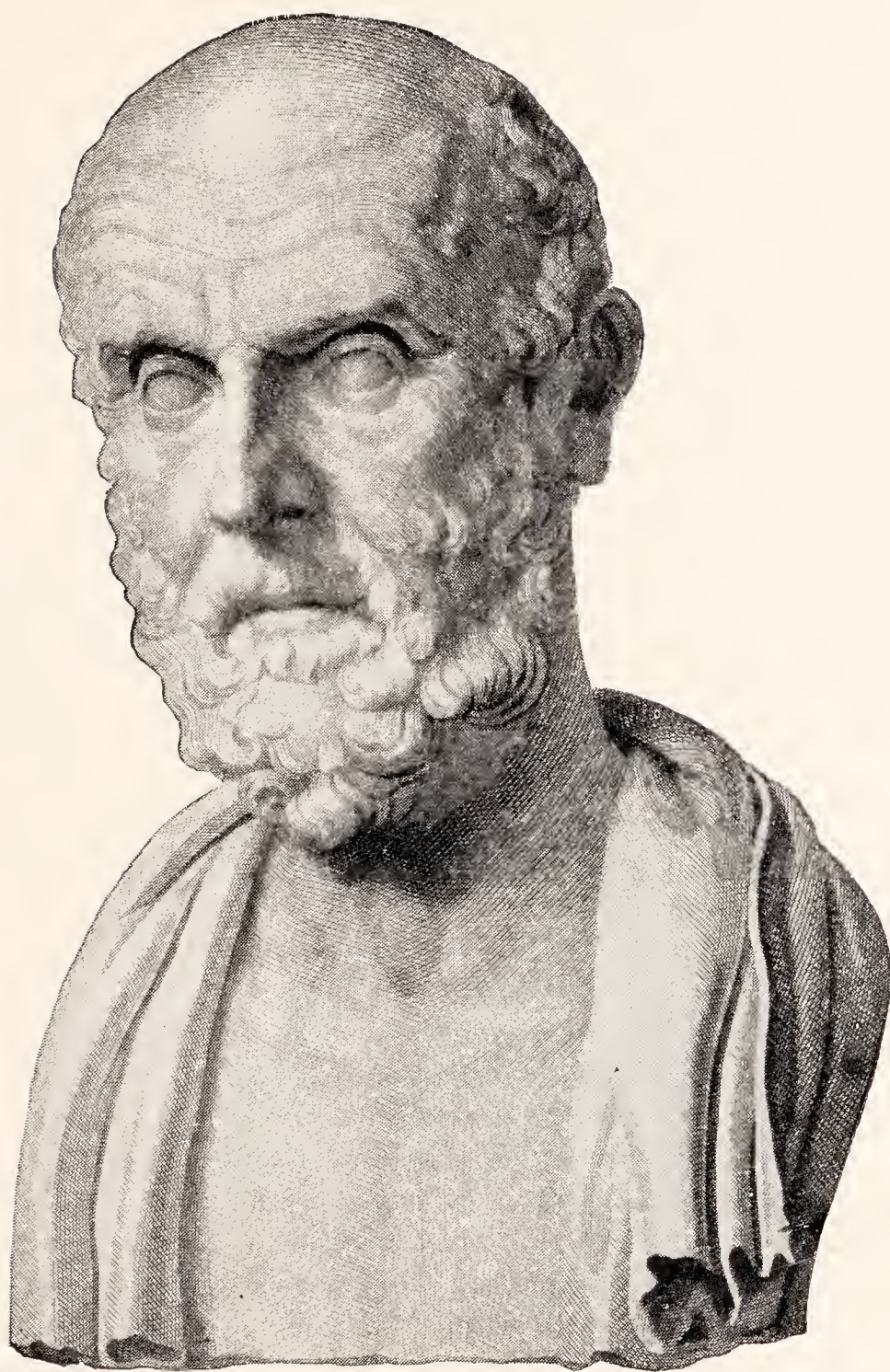


FIG. 4. HIPPOCRATES OF COS.

embellished his science with elaborate systems of theory. He was the infallible explainer, and his dogmatism was accepted as final authority for nearly fourteen centuries.

THE DARK AGES

After Galen's time and the invasion of the Roman Empire by the barbarians, medical investigation came to a dead stop. Dogmatism, ignorance, superstition and magic were once more rampant. While the Christian religion survived, it was inimical to scientific investigation, teaching only respect for the authority of the church and reverence for the past. The church sponsored the teachings of Galen, and for centuries to deviate from his theorism was to violate the sanctity of religious authority. Theology had full control over western civilization.

During the dark Middle Ages, western learning was nurtured only in the bosom of the church; but the milk on which it was fed was faith-healing, belief in supernatural intervention and the miraculous power of saints and of holy relics. It was the period of monastic medicine, fostering preservation of tradition and control of human destiny by religious precept.

The Church Founds Hospitals and Asylums. The one rich contribution of the church of the Middle Ages was a result of its compassion. The church founded hospitals and orphan asylums. Universities, too, were established. In these institutions religion and religious duties were of paramount importance. There was no real scientific medical attention. Hospitals merely sheltered the sick and the poor. The universities restricted their courses to theology and the moralities according to the letter of the law of the church.

Arabic Medicine. Only among the Arabs, who by the end of the seventh century had swept in conquest over the eastern Roman Empire, Egypt, North Africa and Spain, did intellectual pursuits attain a high level. Arabic medicine carried on the traditions of Galen and percolated into

Western Europe through the return of the Crusaders from Palestine during the thirteenth and fourteenth centuries. Harbinger of the advent of another age of reason was the gradual transference, during the thirteenth century, of the hospitals of Western Europe from the rule of ecclesiastic authority to municipal control.

The Revival of Learning. With the invention of gunpowder and of printing, civilization was propelled into a forward impetus that once more paved the way for experimental scientific endeavor. Medieval superstition and lethargy were pricked and prodded by the easier social and commercial intercourse. Man became adventurous and explored new continents. His spirit was shocked into profound activity. With the advent of the sixteenth century renaissance and the revival of learning there glowed the early dawn of modern scientific achievement, the ideals of which are untrammelled except for the overshadowing restraint of proved fact.

Not in a few years was medicine to achieve the freedom of her new-found kingdom. Rather has it been a matter of all the intervening centuries. In our present day hidden fetters ever and anon are bared and scientific freedom must again fight the good fight for preservation of the principles of investigation first promulgated by Hippocrates.

That the church has fostered the founding of hospitals and medical endeavor is one of her most praiseworthy achievements. Her most serious error has rested in enforcing inhibitions and insistence upon adherence to tradition. Whenever the fallible human leaders in religion or science limit full freedom of thought, then religion, science and human welfare suffer.

Surgery Limited by Ancient Beliefs. The story of surgery is a striking example of such trammeling influence. As late as the eighteenth century surgery was as crude and undeveloped as among the most primitive and uncivilized peoples. Throughout the ages, the religious beliefs of the



FIG. 5. GALEN.

people negated all surgical advancement. The ancient Egyptians so sanctified the human body that dissection with its accompanying knowledge of anatomy was abhorrent. The religion of the ancient Greeks prohibited interference with the bodies of the dead, and Galen's human anatomy was erroneously based on dissection of the pig, ape, dog and ox. To the cultured Arabians, interference with the body was unclean and unholy and surgery was subordinated to internal medicine. Whatever was known of surgery consisted of the dressing and repair of wounds, a natural necessity growing out of the numerous wars that swept and reswept the world.

With the advent of the School of Salerno, the first independent medical school of the Middle Ages, some attempt was made to develop surgery, chiefly in the nature of caring for wounds. It is not thought that the School of Salerno was of ecclesiastical foundation; yet it is known that the clergy and the physicians of Salerno intermingled. Many of the priests and monks took up the study of medicine. Likewise there were numerous scoundrels of the laity who practiced medical necromancy and humbuggery. The servants of religion were not immune to malpractice for the sake of fees, and the church found it necessary to issue a long series of edicts restraining the medical activity of the monks. Their chief result was not so much to inhibit malpractice as to throw medicine and surgery into ill repute.

The Medieval Church Forbids Surgery and Dissection.

The Edict of Tours in 1163, forbidding the shedding of blood, gave surgery a lethal blow. Dissection likewise fell under the ban of the church, believing, as it did, in the material resurrection of the body. During the early Renaissance papal indulgence was finally granted for an occasional dissection. In the middle of the sixteenth century when surreptitious dissection had become so prevalent as no longer to be ignored, the church succumbed to pressure of the times with an edict that, as dissection of cadavers

served a useful purpose, its practice was thenceforth countenanced by the Church.

How close to our own times certain intolerant medical and religious leaders have laid the heavy hand of restraint upon medical advancement is well illustrated in the reception of the use of chloroform to alleviate the pangs of childbirth. It was in 1847 that Dr. James Young Simpson, professor of obstetrics at the University of Glasgow, successfully and compassionately employed chloroform in a difficult labor. His discovery was not received with wild acclaim. On the contrary, it met with the severest censure by the Scottish clergy, who bemoaned the intervention of man in the natural obligations laid upon woman by the hand of God. To their denunciations were added those of Dr. Charles D. Meigs, noted Philadelphia obstetrician of that day. Had Dr. Simpson not been a fighting soul, attacking his enemies with ridicule and fine satire, bigotry might have delayed indefinitely a boon to suffering humanity.

In like vein, when vaccination against smallpox was introduced, certain of the clergy opposed its use with the questionable appeal that smallpox was a visitation of God. Sundry physicians sided with the clergy and one of Jenner's contemporaries, Dr. Moseley, attacked him ferociously in print, captioning the title page of his book, "Father, forgive them, for they know not what they do."

There are unfortunate instances in which organized medicine has remained blindly conservative, perhaps obstinately so, in spite of indisputable evidence of a great discovery. Oliver Cromwell died of malaria, before his time, simply because the English physicians of the period refused to accept the value of quinine. Yet quinine had been used with great success on the Continent for more than twenty years.

Because he proved that childbed fever is carried by the attendant's hands from mother to mother, and thereby upset the pet medical notions of the day, Semmelweiss was



FIG. 6. WILLIAM T. G. MORTON.



FIG. 7. EDWARD JENNER.

ridiculed and persecuted until he finally went insane. At the same time, Oliver Wendell Holmes supplied the undeniable proof that childbed fever is contagious and became a target for acrimonious personal attack from leading American obstetricians. Yet the colossal discovery of Semmelweis and Holmes has resulted in saving the lives of many thousands of childbearing women.

Time and again throughout the ages, ultra-conservative, narrow-visioned persons in the fields of both medicine and religion have refused to accept new truths. By so doing they have impeded medical advancement, and social and spiritual welfare.

However, the instances in which medical conservatism has delayed acceptance of valuable healing measures are few as compared with the cases in which it has exposed fraud and charlatanism.

Chapter VII

HEALTH AND THE MODERN ORIENT'S RELIGIONS

DEAN INGE of St. Paul's, London, reminds us:

Religion is a powerful antiseptic, which preserves mummified customs that have long outlasted their usefulness, and otiose dogmas that have long lost their vitality. The history of customs and beliefs which have been put under the protection of religion is very instructive. It explains, as nothing else can, the vast quantity of mere survivals which encumber modern life.

The history of the numerically preponderant religions of today gives evidence of a similarity in cycles of development. Each has laid claim to possession of exclusive rightness and has vigorously opposed the concepts of other religions at various times.

The Divisions in Religions. Yet in any religion, as in science, there have frequently been two groups: a majority who are extremely conservative, who cling tenaciously to ancient hypotheses, who surround simple creeds and rules of living with such intricate dogma and ritual that their original intent is obscured and lost. Then there is the other group, generally a minority, who are progressive and far-

sighted, whose moral and religious concepts undergo a constant evolution as they pass through life. This group is never afraid to face the truth, nor to admit new truths as a progressive revelation to men.

Dogma in any religion, because it is subscribed to by the unthinking majority, has often been confused with religion. Yet it is the thinking religious leaders who are today applying religion to practical life and social work, who are accepting the modern theology based on archeological and scientific research and who see in newly discovered natural laws a greater revelation of deity.

It is the dogmatists of all ages who have been the strongest factor in preventing cooperation between religion and science. On the other hand, it is the members of the second group to whom science is looking for constantly closer cooperation between science and religion.

The Evolution of Religion. During the centuries religion has experienced a vast upheaval of evolutionary ideas. Climate, race, accident, commerce, accumulating knowledge—all are contributing factors which have molded religion. It has not remained stationary. A cross-section of the world from the standpoint of faith reveals her active religions in all stages of evolutionary development, from the mystical rites and sorceries of the savage to the advanced religions of the western hemisphere, which endorse and incorporate the discoveries of modern science.

Numerical Strength of Modern Religions. Dr. R. E. Hume, of Union Theological Seminary, has accumulated a comparative census of the modern world's religions, which reveals their numerical strength:

Christianity	557 millions
Confucianism	250 millions
Mohammedanism	230 millions
Hinduism	217 millions
Buddhism	137 millions

Taoism	43 millions
Shintoism	16 millions
Judaism	11 millions

In order to understand the power that present-day religion wields over the health of its converts, it is enlightening to review those beginnings which have shaped each religion's individuality.

HINDUISM

Origin. The beginnings of Hinduism are older than Christianity. It is more than a religion. While Islam and Buddhism claim a place in Indian religion, Hinduism embodies the entire religious and social structure of the majority of the people of India.

Diversity of Beliefs. It is unique among the religions of the world for its toleration of a diversity of beliefs and for its ability to hold in so powerful a polity a vast horde of human beings of varied racial origins, traditions and languages. Dr. Hume has said that the Hindus have worshipped any object they preferred, or virtually done, and have pursued any standard of morality, or none; yet they have remained Hindus in good and orthodox standing, providing they followed the inviolable rules of the caste system.

Teachings of the Vedas. The sacred scriptures from which Hinduism has sprung are primarily the four Vedas and the Brahmanas, the earliest collection of religious writings which have been handed down for the guidance of Hindu posterity. The Rig-Veda is a collection of hymns compiled about 1200 B.C. from much older material, and is considered the oldest sacred writing still influencing present-day religions. The authority of its precepts may not be questioned by the orthodox Hindu.

The Brahmanas and Transmigration. Nature worship characterizes the social teachings of the Vedas, and there

is recognized also a Heaven-Father, always associated with an Earth-Mother. In the Vedas, there is belief in a future life and cremation is favored over burial of the dead, but metempsychosis is not mentioned. The doctrine of the transmigration of souls is first promulgated in the Brahmanas. The latter introduced into the Hindu social structure an intricate system of animal sacrifice for the attainment of immortality. Sacrifice was to be offered by the priests for payment, and the slaying of animals in prodigious numbers was prescribed. The Brahmanas likewise forbade the eating of beef and laid down rules formulating the superiority of man over woman.

The Philosophy of the Upanishads. The next great source of present-day Hindu religion may be found in the sacred writings called the Upanishads, dating to approximately 500 B.C. The Upanishads introduced philosophical speculation and taught that salvation means complete absorption in the one infinite, omnipresent Being, the world soul, or *Brahma*. The world was to be considered unreal, an illusion. The only reality was Brahma; and the aim of life was to become lost, through change and transmigration, in the eternal, blessed omnipresent spirit.

The Law-Book of Manu. Later writings, especially the Law-Book of Manu (about 200 B.C.), laid down in minutest detail compulsory regulation of the caste system, with rules and prohibitions for governing daily life from the cradle to the grave. The differences between the four castes were particularly elaborated. Idol worship was definitely outlined, and rules of the temples and of the priests designated. The inferiority of woman was stressed. Above all, the necessity for reverencing the inviolable and unchangeable authority of the Vedas was emphasized.

Modern Hinduism. Present-day Hinduism includes a succession of additions to these elaborately formulated ancient laws for living. In the main it holds to a rigid caste system, belief in reincarnation, a plurality of gods, the

sacredness of the cow, the saving grace of holy rivers and pools and the inferiority of woman. It involves, too, all manner of reliefs in demons, local deities and repulsive practices surviving from the past.

The Caste System. The powerful force which unifies a nation of so diversified anachronisms is the caste system. Historically there have been four main castes, which in the order of their prestige are: the Brahman priests, the Kshatriya rulers and warriors, the Vaisya traders and agriculturists, and the Sudras, who serve all other castes. Further subdivision has resulted in several thousand subcastes, and also the pitiable 70,000,000 untouchables of the lowest caste or of no caste, composed of the most miserable and wretched of India's population. For each caste minute and exact conditions of life are prescribed. To belong to a caste means that one must obey all the caste regulations regarding food, occupation, residence and above all birth, marriage and death. The castes may not intermingle, and the orthodox Hindu may not under any consideration "break caste" by marrying his children to outsiders. The laws of caste prohibit travel or residence outside of India, a restriction which the enlightened Hindu disregards, however.

Influence of Hinduism on Health. The influence of Hinduism upon the health of the nation is profound. The leaven of intercourse with western civilization is slowly spreading, but release from binding tradition is still a matter of the distant future. In the meantime, British governmental improvements, the spread of education and the work of occidental medical missions are vital factors in disenthraling the masses of India from the insanitary and unhealthful conditions which make her a nation of low stamina.

Social and religious precept demands that the Indian shall spend his hours of leisure in observance of countless rites having to do with birth, marriage and death. Outside of his immediate occupation, execution of ceremonial is

his chief source of instruction and amusement. Fairs and festivals, pilgrimages to holy rivers and pools, and observance of the extensive and intricate marriage rites form the fabric of his existence. To break the law of caste is anathema; though this law of caste lays down a multitude of precepts of extreme detriment to health, and modes of living which ethically and physically undermine Indian vitality.

Dietary Restrictions. Religious restrictions upon eating have a direct influence on Indian health, though the extreme poverty of the people as a whole is also a contributing factor. Dr. A. Mallannah, a native physician writing in the *Indian Medical Gazette*, has made the statement, "Indians are weaker physically than other nations and possess a lowered resistance to infections of all kinds. This lowered resistance found among Indians is due largely to diet." To the Hindu, killing or even touching a cow is religiously abhorrent. The vast majority of the population live upon a purely vegetarian diet lacking the proportion of proteins necessary to health. The diet of the Indian needs the addition of milk and meat, but the Hindus do not eat meat on account of religious beliefs. Neither are they sufficiently enlightened to add to their diet health-building vegetable proteins.

Malnutrition and Deficiency Diseases. Undernutrition and physical deficiency are woefully prevalent. The Bowri caste do not kill, but are notorious eaters of carrion. In Burma, a diet of rice and decomposing fish is ordinary, and milk is seldom drunk. Malnutrition and the eating of the decomposing protein give rise to the so-called deficiency diseases and favor a high incidence of leprosy. Beriberi, xerophthalmia, celiac disease, dental caries, anemia, and a host of chronic infections strike down a population predisposed to disease because of faulty national diet. The Indian nation, however, has never been faced by a prohibition

problem, for intoxicating beverages are prohibited to the upper castes by their religion.

Hygiene and Hinduism. Many Indian social and religious habits exhibit a total disregard for the laws of health and public hygiene. To the Hindu, pious pilgrimage to holy bathing places earns great religious merit. Bathing in holy pools and rivers absolves the pilgrim of all wrongdoing. The Hindu frequently carries his sick ones long distances to the sacred waters to receive healing. Death by the side of the holy river earns the dying one salvation.

Though present-day knowledge from the western world is gradually providing better drinking facilities and disposal of sewage, holy pilgrimages spread disease and death to every part of the land. In the near past latrines were unknown. The river banks were polluted with sewage, which, seeping into the swirling waters, wrought deadly havoc upon the faithful who drank and bathed in the holy rivers. If holy pilgrimage earns blessed release for the devout, so does it also hand him a free gift of typhoid and cholera, which sweep the land in devastating epidemics, checked only by scientific sanitation imposed upon the people by British rulers.

There are, on the other hand, certain caste restrictions of the Hindu faith which are hygienic and serve to promote health. The Hindu, for instance, will not drink from a common drinking cup nor eat food from a common dish for fear that he will be contaminated by contact with another caste.

Hinduism and Marriage. Hinduism has had a two-fold effect upon marriage. On the one side is its ideal of strict monogamy which has been adopted by all the castes. On the other side is religious insistence upon marriage within the caste, a male line of succession and denial of remarriage to widows.

A girl baby is an expensive liability to a Hindu father.

He may not marry her outside her caste. But as it is considered disgraceful to have a daughter remain unmarried after her early teens, he arranges her marriage at the earliest possible age. A woman's sole function, according to Hindu religion, is to serve her husband, bear him male children and worship him as her god.

Child Marriage and Health. The practice of child marriage has wrought untold misery to the girls and women of India. Great Britain, with its monumental problems of Indian government, has endeavored wherever possible to play a "hands-off" policy in matters so vital to India as her religions. Within the last year, however, the government has interfered to the extent of prohibiting child marriage below an age conducive to morality and health.

Till then, marriage of girls nine or ten years of age to much older men have not only been countenanced but required by the Hindu customs. Under such conditions a girl's sex life commenced even before her body had developed to the age of puberty. Early motherhood sapped her vitality, and the forcing of her physical growth predisposed her to serious illnesses. She is prone to tuberculosis; the shock of sexual congress before her body has matured has made her the prey of abnormal mental manifestations; and frequently the extramarital sexual indulgences of her husband have befouled her with gonorrhea and syphilis.

So high is the fatality among child wives and their sickly, puny babies that a husband has often to arrange for a succession of remarriages in order to secure continuance of his lineage. The horrible effects of social diseases are so completely disregarded that fathers knowingly marry their daughters to venereally infected men.

Nor has the practice of child marriage been confined to India's unenlightened masses. So strong a hold has religious tradition upon her people that her intellectual men of foreign university education, as well, have been

parties to child marriage, acceding reluctantly to the pressure of foreign opinion regarding the tragic existence of India's child wives and widows.

Sex and Race Deterioration. Religious custom demands that the Hindu youth have a legitimate son at the earliest possible moment. As a result, his sex life is unrestrained from earliest potency. It has been said that nowhere is sexuality less restrained than among the unenlightened nations of India.

A high-caste Brahman physician of broad education and standing has said, "Our undeniable race deterioration, our national lack of power of concentration, of initiative and of continuity of purpose cannot be dissociated from our expenditure of all vital energy on the single line of sexual indulgence."

Childbirth an Unclean Act. The Hindu religion labels childbirth an act of uncleanness, and decrees that it shall be attended by most insanitary conditions. The expectant mother must lie upon a heap of uncleanly rags in a room excluding all fresh air, and is confined in filthy rags. The midwife changes to rags when attending a birth, carrying infection from one insanitary birth chamber to another. During labor, which sometimes lasts for days, the mother must refrain from food, and may not be given clean clothes until the fifth day. The traditional midwife is trained in little else but superstitious rites and necromancies. Small wonder, the monumental mortality attending childbirth in India.

Slowly but surely western civilization and Christian medical missionaries are bringing surcease from disease and death; but the hold of ancient tradition is strong. Its strength is illustrated by the reported case of an Indian physician with an English medical degree, who allowed his young wife to be delivered in the traditional, insanitary manner under the care of a midwife, with fatal result to both mother and child.

Medical Care in India. The number of European physicians practicing in India is comparatively small. The shortage is so great that foreign enterprises frequently have their own organized medical services. The mission hospitals are the most vital factor in Indian medical enlightenment. Most of them are American, and the Salvation Army, as well, maintains an Indian medical corps. With the gradual increase in feminine education, many Indian women are studying medicine and specializing in midwifery and diseases of women and children.

Survival of Early Medicine. But the vast majority of Indians are exceedingly poor; the caste system allows them no opportunity for self-advancement; and they cannot pay the prices which physicians of long scientific training must ask. Consequently, side by side with modern medical facilities, the ancient system of medicine, for a few pennies, plies its trade in mystic herbs and rites. We may read in so well-known a journal as the *Burma Medical Times*, the seriously iterated statement:

Western medical science ascribes the causes of malaria, plague, kala azar, elephantiasis, and such other diseases to mosquitoes, flies, bugs, etc., but the followers of the Ayurvedic System refuse to believe these theories and ascribe the causes of the disease to certain internal derangements called "Tri-doshas"!

Beliefs of Advanced Hinduism. While the majority of Indians cling tenaciously to time-honored religious forms and customs, certain groups have broken away. The most advanced of all these groups is the Brahmo Samaj, which holds to an unqualified monotheism and a purely spiritual worship. Its members are social reformers, opposing caste, child-marriage and the enforced celibacy of widows.

With scientific enlightenment, the strength of Hinduism will rest in her unique ability to hold together so diversified a people with a purified religion. Freed of its shackles of superstition, advanced thinkers in India hold

that Hindu beliefs will rest in a supreme, omnipresent, spiritual God, a future life determined by one's deeds and ultimate union with the Divine Spirit. In the meantime, the caste system is an almost insurmountable obstacle in the way of breaking the bonds of ignorance.

CHINA AND HER THREE SAGES

History would indicate that the teachings of wise and good men born ahead of their intellectual generation are prone to a common fate. For the brief span of a lifetime their transcending intelligence illumines the obscurity of an ignorant age with vivid and scintillating light. Succeeding generations so embroider the simplicity of their teachings that the pure gleam is well nigh extinguished by varying interpretations and offensive, falsifying additions.

Such has been the fate of the three great founders of the religions which have swayed, in the main, the destinies of China. Confucius, Lao-tze and Buddha, contemporaneous sages five centuries before Christ, promulgated ethical standards which compare favorably and do not conflict with the highest moral requirements of modern religion. Yet it is the foment of contact with so-called modern Christian civilization that is the chief vivifying factor in the Orient's present intellectual reformation. Down through the ages her own religions have become so heavy with anachronistic impedimenta as to negate all progress.

CONFUCIUS

Early Life of Confucius. It was in the approximate year 551 B.C. that a humble youth of the name of Confucius grew up in the midst of a family of eleven in the province of Shantung. When Confucius was three years old, his father died and the burden of working for a meager living fell heavily upon his shoulders, as it did upon the rest of the fatherless family. We are told that Confucius was



FIG. 8. CONFUCIUS.

Japanese, Kano School. (*From the Museum of Fine Arts, Boston.*)

diligent in applying himself and in later years considered his early poverty a blessing. He was married at nineteen years of age and there were born to him a son and two daughters.

In his early youth, as once again in his middle age, he was intimately connected with governmental administration and came to be revered as a philosopher and savant by his townspeople. When only twenty-two, he established a school for youths interested in right conduct of personal life and of government.

Not all accepted his philosophies, and by many he was proclaimed as "impractical and conceited, with a thousand peculiarities." His entire life was spent in study, and in teaching his disciples.

His Philosophies and Reforms. In his fifty-second year we are told that he was permitted to reenter governmental administration as chief magistrate of the city of Chung-tu. He brought with him a period of marvelous reform: "Dishonesty and dissoluteness hid their heads. Loyalty and good faith became the characteristics of the men, and chastity and docility those of the women. He was the idol of the people, and flew in songs through their mouths."

But Confucius had jealous enemies of state who contrived to remove him from office, and in his fifty-sixth year he again resumed his teaching of all those who would listen to him. By many he was reviled, and he knew the exigencies of poverty. There were those who attempted to assassinate him. His disciples supposedly numbered 3000, among whom were a select seventy or eighty beloved "scholars of extraordinary ability." They revered him, studied his every act and unreservedly proclaimed him "the greatest of mortal men."

His Death. At the age of seventy-two, we are told that early one morning he walked back and forth about his door, reiterating the words: "The great mountain must crumble, the strong beam must break, the wise man must

wither away like a plant." Seven days later, he was dead; and a people whose rulers had neglected his teachings while he was living revered him as a saint destined for deification and worship.

He Taught Beauty of Individual Virtue. Confucius did not set himself up as a religious founder and teacher. By some writers he has been proclaimed an agnostic. His definition of wisdom was, "to give one's self earnestly to the duties due to men, and while respecting spiritual beings, to keep aloof from them,—that may be called wisdom." And again, "While you cannot serve men, how can you serve spirits?" was his rebuke in answer to a disciple. He taught the existence of a Supreme Being and that the inherent goodness of man is divinely implanted; yet he discouraged prayer, common worship, and belief in a god whom each person might approach. Do not waste time speculating on death, was his precept; learn to know and practice the proprieties of life.

His Social Teachings. The fire and zeal of Confucius' teachings were directed toward instructing man in his duty to man. The "perfect virtue" was to undertake a life of service for the benefit of men. So, too, the prime requisite of government, to Confucius, was not the collection of revenue but the proper functioning of all officials in duties conducive to the general good. In his five relationships: ruler and subject, father and son, husband and wife, elder brother and younger, friend and friend, he explicitly formulated the ideal propriety for the "superior" man. His "golden rule" is a replica in negative form of the Christian golden rule: "What you do not like when done to yourself, do not do to others."

Woman did not hold a prominent place in the Confucian picture, other than as man's inferior. As a girl she must obey her father and elder brother; when married, her husband; and when widowed, her son. Polygamy ap-

parently had the sanction of Confucius, if withholding of definite precept may so be considered.

Additions to Confucian Ethics. That he himself would be deified and worshipped would undoubtedly have been a deep disappointment to Confucius, could he have glimpsed the centuries following. The eventual whole-sale animal sacrifice in his honor, sometimes as high as 50,000 animals annually, would have given him profound sorrow. Confucius considered religious speculation a waste of valuable time; yet in Confucianism numerous deities came to be worshipped, both in ancient and modern times. Some are the forces of nature—the Sun, the Moon, the Earth. Others are historical heroes, the great and noble Confucius himself and emperors whose names have passed down to posterity for valorous conduct.

Influence of Ancestor Worship. An element of Confucian worship that has had tremendous influence upon the social problems of the Chinese has been their belief in ancestor worship. It has meant primarily a belief in the existence of ancestors after death and in the necessity of rendering them the same filial piety as is required during their lifetime. Ancestor worship is referred to in the writings preceding Confucius, and he, too, placed great emphasis upon the divine virtue of filial piety before and after death. The costly ceremonies that came to be required in ancestor worship have been a heavy economic burden to Confucianists even to the present day.

THE PHILOSOPHER LAO-TZE

When Confucius was thirty-four years old, he visited and was much impressed by the venerable Chinese philosopher, Lao-tze, who also was destined for deification and whose teachings launched a religion enduring in China to the present day. Lao-tze recognized the misery all too frequently attendant upon living and sought to discover a means that would project the individual be-

yond the power of being hurt by human events. In this present day, he would perhaps be called a mental hygienist.

Lao-tze recognized but did not concern himself with the rectification of social and economic evils. His whole life was engrossed in teaching the individual how to rise above the ill effects of whatever condition of life surrounds him. He has been called a mystic and his religion, the Religion of the Divine Way. The word *Tao* in its pure form meant the cosmic plan by which the heavens move round the earth. It was later interpreted to mean the universal energy originating all natural phenomena.

Taoism a Passive Philosophy. The Divine Way to happiness which Lao-tze urged all men to pursue was: first, to cast out selfishness and all desire for self-aggrandizement; secondly, to unite with the Tao through losing one's individuality; and thirdly, to acquire the power of complete submergence with the Tao and to escape the limitations of time and space.

High Code of Ethics. Lao-tze advocated frugality and simplicity. He lauded the innocence of peasant life and opposed activity even of an educational sort. He exalted non-resistance, contentment, humility and spiritual quietude. Throughout his philosophy there is emphasis upon the blessedness of "*wu-wei*," or the principle of inactivity and non-resistance. He taught his followers an extremely high code of social ethics, and urged them to recompense injury with kindness and insincerity with sincerity.

The fatal aspect of Lao-tze's philosophy was that, while it recognized the existence of poverty, misery and political and social corruption, it failed to advocate rigorous remedial measures of any kind. Rather it promulgated a "lying-down" to it, the *wu-wei* or "do-nothing," an acceptance of existing conditions by elevating the soul above them.

Later Taoism. Through contact with Buddhism, Taoism



FIG. 9. LAO-TZE.

In accordance with the best philosophical criticism, no man by the name of Lao-tze is believed to have lived. Lao-tze in Chinese means "Old Master" and is a legendary character. The Taoist spirit is best represented by any sage seated in a mountainous and wild landscape. For this reason we are here using a Sung Dynasty painting of a Taoist Immortal. (*From the Museum of Fine Arts, Boston.*)

eventually acquired monasticism and priesthood. The early mystics practiced prescribed courses of breathing and fasting. Taoism degenerated into a religion of exorcism, magic and belief in a plurality of gods and demons. In its present form, it contains little of the high moral teachings of Lao-tze, and the "inactivity" prescribed by the great teacher has been corrupted to mean withdrawal into the monastery or the nunnery.

THE ROMANCE OF BUDDHISM

The founder of the third great religion whose beginnings were contemporaneous with those of Confucianism and Taoism was Buddha. Like Confucius and Lao-tze, Buddha was an intellectual and an advanced soul born in an age of mass ignorance. He, too, recognized the existence of a world of misery and, seeking an explanation, formulated a moral system of salvation which he preached throughout his native country.

Buddha was the only son of a wealthy Hindu king of the warrior caste. Of sensitive nature, legend tells us that he was deeply distressed one day upon observing in rapid succession an aged cripple, a corpse and a man loathsome ill. He brooded upon the instabilities of life affecting rich and poor alike, and pondered upon the spiritual calmness exhibited by a religious ascetic.

Except to explain it in terms of a pathological oversympathetic morbidness, it is difficult for us in this present day and age to understand Buddha's next step. At the age of twenty-nine he renounced his wife, his newborn son and his wealth, and set out to search for the great Explanation.

His Search to Explain Life. His search first invested him with the robes of a monk, and he sought to solve the problem of existence according to the traditional metaphysical speculation characteristic of the Hindu religion. After six years of asceticism, we are told he com-

pleted his philosophical doctrines while sitting under a bo-tree, the sacred wild fig, and spent the rest of a long life wandering about the country teaching his revelations to monks and the masses alike.

Revolt from Hinduism. Buddha has been highly praised by commentators for his bold and rigorous denunciation of the evils of the Hindu religion, in which he was reared. He strongly denounced the injustices of the Hindu caste system and discouraged prayer to and worship of deity. He reacted against the ritualistic sacrifices, the paid priesthood and the burdensome and useless ceremonials of Hinduism. Buddha's only message to his followers was a code of ethics and a philosophical creed whereby mankind might rise above all misery and unhappiness.

Buddha a Mental Hygienist. Buddha's philosophical creed taught the way to escape suffering. Since all existence involves suffering, he reasoned, and since suffering is caused by unsatisfied and insatiable desires, a suppression of all desire will bring about cessation of all suffering. Like Lao-tze, he was a "mental hygienist," and adjured his disciples to learn to control their own states of consciousness without recourse to the tangible paraphernalia of religion.

Nirvana. Buddha's metaphysical speculation accepted the Hindu Law of Karma, reinterpreted the Hindu belief in transmigration, and taught that the highest attainment of happiness is *Nirvana*. By the Law of Karma, or law of the deed, evil and good deeds bring about inexorably their own retribution and satisfaction. Buddha rebelled against the Hindu idea of transmigration as inescapable. He taught that, while Karma may cause reincarnation, one may so live as to be beyond its law. The state of *Nirvana* has been variously interpreted, as attaining a state of total extinction of individual consciousness or as attainment of a state of perfect, desireless peace.

Commandments and Teachings. While Buddha did not

sanction prayer, worship and deification, he gave his followers a very high social code to follow while searching for Nirvana. His five commandments to the masses were: "Do not kill, steal, commit adultery, falsify or drink intoxicants." Other more stringently ascetical commandments were enjoined upon the monastic body which he organized. He prescribed periods of fasting and forbade indulgence in dancing, music and such personal delights as ornaments, fine robes, perfumes, easy-lying beds and acquisition of gold or silver. Like Lao-tze, Buddha taught withdrawal from the activity of the world, in favor of self-discipline and quiet, peaceful acceptance of the conditions surrounding one.

Popular Modern Buddhism. Buddhism had its inception in India and is still widely practiced in Ceylon, Burma, Siam, Cambodia, China and Japan. In the two latter countries it coexists with the national religions of Confucianism, Taoism and Shintoism—the religion of Japan which has patterned so closely after the religions of neighboring China. As in the gradual decadence of these latter religions, century upon century of change has added to Buddhism an elaborate ecclesiastical system, a contaminated monasticism, temples and monasteries, worship of Buddha, images and a pantheon of gods, incantation with magic rite, and belief in demonology. Such is the popular type of present-day Buddhism.

In these latter days of easy international communication, however, the scene shifts overnight. Contact with western civilization is bringing to China and Japan religious, political and social renaissance. Chinese and Japanese intellectuals of the present day tend to embrace the religions of the western world or become atheists and agnostics, with a code of ethics shaped by the best teachings of their native religions unencumbered by the decadent influences which have crept in through centuries of ignorance.

THE HEALTH MOTIF IN ORIENTAL RELIGIONS

While religions infrequently have laid down precepts with the health motif as a definite objective, yet the influence of religion on health exhibits itself in a multiplicity of indirect routes. As religion fashions morals and social structures, so do the morality and social fabric of a nation fashion the bodily strength and sturdiness of her peoples.

To trace out the health motif of Confucianism, Taoism and Buddhism one may focus observation upon the Chinese people whose native land has fostered these three great religions through the centuries.

Results of Ancestor Worship. The most conspicuous phase of the Chinese social structure is the mighty hold which ancestor worship has had upon the Chinese people. The cornerstones of Chinese religion, ancestor worship and filial piety, have exalted the family unit, the while subordinating the welfare of the individual to an extraordinary degree. It has sent forth mighty tendrils of influence touching the welfare of women and children, and the education and economic status of the masses.

The Burden of Ceremony. Ancestor worship has entailed strict observation of elaborate ceremonies, expensive rites connected with marriage and death, maintenance of ancestral halls, and costly family reunions at fixed seasons. One of the reforms fostered by the educated Chinese of modern times is aimed at the intolerable burden of poverty imposed by the expensive funeral customs the masses are religiously bound to maintain.

Position of Women. Ancestor worship has exalted the position of man over woman. The raising of male progeny to carry on the family name is a religious duty. "Three things are unfilial, and having no sons is the worst," wrote Mencius, the great disciple of Confucius. Daughters are regretted because, leaving their ancestral halls



FIG. 10. BODHI DARUMA.

Creator of the Zen Sect. From a painting by Warren E. Cox, representing a carved wood, lacquered figure of the Kamakura Period (1186-1335). (*Original in the Kansas City Museum.*)



FIG. 11. MANLA.
The Tibetan Medicine Buddha.

at marriage, they cease to contribute to the perpetuation of the family lineage. Reverence for the ancestral family has encouraged early marriage and, for those who can afford it, polygamy.

The Drain of Inordinate Propagation. Among the poorer classes inordinate propagation for the honor of the family clan has bred so down-trodden and poverty-stricken a mass as to injure seriously the health of the nation. Extreme poverty and depleted energy make fertile soil for deadly disease. This social-religious trait of the Chinese has been characterized by J. O. P. Bland as "the procreative recklessness of the race, that blind frenzy of man-making, born of ancestor-worship and Confucianism, which despite plague, pestilence, famine . . . persistently swells the numbers of the population up to and beyond the visible means of subsistence." Mr. Bland continues, "By means of polygamy, early marriage and the interdependence of clans, the Chinese people struggle to fulfil at all costs the inexorable demands of their patriarchal system."

Solidarity of the Family. On the other hand, due credit must be given oriental religions for the solidarity of the family which it has developed through the centuries. The strength and continuity of family life in China has done much to offset ignorance and deplorable results of certain religious teachings. While western civilization is bewailing the disintegration of the family as a serious menace, millions of Chinese can point with pride to a compact, well-organized, loyal and industrious family unit.

Marriage by Contract. The Chinese religious and social systems have no place of importance for womankind, except as a necessary means for obtaining sons. Marriage is ordinarily by contract, arranged by "middlemen" for a fee, and usually without consulting the bride and groom. Often young children are betrothed and never see each other until the bridal day.

Yet in spite of pre-arranged marriages, in spite of the fact that three or more generations with their various families are grouped under one roof, a harmony prevails which speaks well for the seriousness with which the typical Chinese follows the religious teachings of calmness and contentment with his lot. This prevailing concord in family life which is so amazing to westerners is a direct outcome of the veneration for ancestor and family.

Slavery. Unfortunately, the slavery of little girls is still existent in remote sections of the country. Houses of ill-fame are found in all cities and are countenanced by the religious customs. Thus a Buddhist orphanage receives without question girl babies passed in at the door, their ultimate destination the houses of ill-fame.

Dependability of Character. While the deplorable effects of these oriental religions are all too evident, beneficial effects are also apparent. The Chinese have taken their religion so seriously, as such an integral part of their daily life, that it has developed a distinct national character. Fearing to bring disgrace upon his ancestors and his family, the representative Chinese has developed a dependability of character, an honesty and a thoroughness in details which other peoples would do well to emulate.

Havoc Wrought by Negative Philosophy. China's religions have unanimously taught resignation, inaction and contentment with one's lot. These national qualities have both good effects and evil. They have wrought deadly havoc in chaining the Chinese mind to the past and in negating scientific enlightenment. The religion of "desire-nothing, do-nothing" has resulted in an extremely low scale of living and ignorance concerning the laws of hygiene, sanitation and health. Typhus, cholera and small-pox are widely prevalent.

Lack of Hygiene and Sanitation. The Buddhist religion is averse to the taking of life; but by the poorer classes animals that have died a natural death are eaten. This



FIG. 12. NICHIREN.

The Japanese Buddhist priest, founder of the Nichiren Sect.
(From the Collection of Mr. J. G. Phelps Stokes.)

custom certainly raises mortality. In conjunction with the elaborate and expensive funeral rites, thousands of unburied coffins are kept above ground for weeks and months, a menace to public health, until the propitious time and place of burial have been determined by the religious magic-workers. The lack of cleanliness universally prevalent among the poverty-stricken masses is responsible for an extremely high percentage of the diseases which are treated at the missionary hospitals. The misery of their lot and their complete disregard for the value of the individual result in a high incidence of suicide.

Higher Classes Scrupulously Clean. As in other nations, however, dirt and disease accompany ignorance and poverty. The better-class Chinese, by contrast, are meticulously clean and extremely particular about their personal habits and appearance. Believing in plenty of fresh air all the year around, they never close the windows of their homes, summer or winter. In cold weather they wear fur-lined or padded garments to keep warm.

RELIGION AND ORIENTAL CALMNESS

Religion has also developed in the representative Chinese a calm, unruffled temperament. His imperturbability under any circumstances has made him the best chauffeur in the world. While western nations are filling their insane hospitals with ever-increasing victims of mental troubles, the Chinese walks calmly through life, ignorant of "nerves" and psychiatrists!

Reverence for Learning. Chinese religious life has always held learning in high reverence, but in the past the group of scholars has been numerically small. The city fathers have been chosen by competitive public examinations, and have been held in high esteem because of their erudition. It has been said that one of the finest inheritances of ancient China to new China has been the recognition of the aristocracy of learning. However, Chinese

learning has been restricted primarily to memorization of the ancient literary and religious classics, and the masses of the people have remained in deplorable ignorance, receiving only such rudimentary instruction as the father of the family might provide for the children of his household.

Beliefs of the Masses. Animistic worship still holds a majority of the people in bondage, and the folk medicine of the people is characterized by belief in the efficacy of exorcism and sacred formulas.

OUTLOOK FOR THE FUTURE

Happily, the return of Chinese students from foreign lands and the educational work of the western missionaries promise to dispel Chinese mass ignorance. Those who are close to new China speak of the passionate enthusiasm with which Chinese students and teachers have organized the popular educational movement, devoting evenings and parts of vacations to the conduct of free schools for poor children and adults.

The ancient religions are shaking off the shackles of superstition, returning to and retaining the best of the teachings of their founders; and, like Japan's Buddhists, adopting new world religious methods such as the Young Men's Buddhist Association, social service and educational programs for adults and children of both sexes.

General enlightenment will undoubtedly abolish mass poverty and its attendant evils of famine and pestilence. Out of the present political confusion, new China will rise to dignity of sound national health based on education and scientific enlightenment.

Chapter VIII

HEALTH IN RELATION TO THE RELIGIONS OF JUDAISM, CHRISTIANITY AND ISLAM

FROM the standpoint of pastoral medicine, we are interested in the religions of today primarily in so far as they affect public health and physical well-being. Faith and doctrine do not enter into the present discussion, except in those instances where they bring the activities of the physician and pastor into harmony or into conflict with each other.

Religion and Pastoral Medicine. Hence this chapter is in no sense meant as an appraisal of accepted religions, but rather as an effort to show what the clergy, of whatever faith, and the medical profession can accomplish by working together to a common end.

We have seen that some of the religious beliefs of the Orient are inextricably intertwined with rites and customs that are in themselves insanitary and inimical to health. Much of the misery in India, for instance, is the result of religious customs that ignore and are contrary to the accepted rules of health and hygiene. Here modern medicine and religion have little in common.

On the other hand, when we study the religions of occidental peoples in their relation to health, we find

that they are not only in more general accord with the principles of hygiene and scientific medicine but have frequently pioneered in this respect by initiating rites and customs that are primarily hygienic in their bearing.

In weighing a religion from the standpoint of pastoral medicine, our criterion of measurement is the degree to which its tenets have elevated the status of the individual and of society. How has it made life more livable for the greatest number of the masses?

Of the three great religions yet to be scrutinized, Judaism and Christianity have held similar moral conceptions. The third, Islam, though sprung from the loins of Judaism and Christianity, has failed to keep ethical or economic pace. These latter days of ruthless change since the World War, however, are throwing the ancient Mohammedan traditions into chaos and confusion, from which a new Islamic order is in the throes of birth.

JUDAISM

Abraham Founds a Religion. Judaism recognizes Abraham as its founder. In Mesopotamia, a land of many gods and idol worshippers, monotheistic speculation was undoubtedly already claiming the attention of the thinkers of the day when Abraham, a leader of the people variously known as Hebrews, Jews, or Israelites, crystallized the new conception and proclaimed the uselessness of idolatry and the supremacy of one God who rules the world. Abraham's descendants continued to believe in monotheism and it was Moses, supposed to have lived approximately 1000 years before Christ, who organized Judaism as a national and religious entity.

The Rise of Moses. Held in bondage in ancient Egypt, the people of Israel suffered untold hardship at the hands of their Egyptian masters. A hardy race, they propagated fruitfully. Fearing the strength of their increasing numbers, the Egyptian Pharaoh commanded that the mid-

wives should kill all male infants born of the Hebrew women. Legend tells us that the mother of the newborn infant Moses hid him among the bulrushes, where he was discovered by the daughter of Pharaoh and was brought up in the household of the king.

Interfering in an altercation in which an Egyptian was beating a Hebrew, Moses killed the Egyptian and, fearing detection, fled to the wilderness. There he pondered over the wrongs of his race and experienced a revelation by numerous signs and wonders from God that he was to free the Israelites from the bondage of Egypt and lead them into the Promised Land in Palestine. Marshalling the people forth out of Egypt, Moses governed their destinies during forty years of wandering in the wilderness.

During this period he received from God the Ten Commandments for the guidance of the people.

Thou shalt not worship other gods nor idols; thou shalt reverence thy God; keep the sabbath holy; honor thy father and thy mother; and thou shalt not kill, commit adultery, steal, falsify, or covet, thundered Jehovah to Moses on Mount Sinai.

Beliefs of Judaism. Judaism involves belief in absolute monotheism, a course of life lived under strict ceremonial discipline and Mosaic law, and belief in the Jewish people as the Divine choice for spreading God's message. Judaism has never waged vigorous missionary activity against paganism. She has also preferred to stand by, inactive against the spread of Christianity and Mohammedanism, yet always clinging tenaciously to her own teachings.

Modern Judaism. A brief survey of Judaism, during these centuries of upheaval in Christian belief, discloses absence of internal schism to an unusual degree. Sects have arisen, but they have been comparatively few. Modern Judaism believes in one supreme Creator. It rejects the Trinity and the Christian doctrine of atonement, as well

as religious asceticism, such as celibacy of the clergy. Judaism has no creeds. Rejecting Jesus as the Messiah, it looks for a Messiah in the future; it believes that man is made in the divine image of God and may have direct intercourse with God without mediation of priest or Son of God. Judaism holds to the strict system of religious discipline as laid down in the laws of the prophets, and cherishes the hope of the ultimate centralization of Judaism in the promised land of Zion, centered around Jerusalem.

History has dealt harshly with the Hebrews, denying them national integrity in their beloved Palestine and scattering them throughout the world, where their race has met frequent persecution and ignominy. Yet throughout their permeation into other lands, they have retained a remarkable national and religious polity, which has preserved with zeal or ardor their hope of eventually centralizing their peoples and reestablishing a Hebrew nation in Palestine.

The Zionist Movement. Modern times have witnessed a very definite forward step in that direction. In 1897 the first international Zionist Congress was called together and the Zionist Organization established. Its program was defined: "Zionism strives to create for the Jewish people a home in Palestine secured by public law." It further aimed to bind the Jewry of all countries in a unified organization, not conflicting with the laws of the countries in which the Jewish remnants were living but amalgamating their numbers for the purpose of furthering Hebrew national consciousness. Practically, the Congress contemplated the necessary preparatory steps for legal occupancy of Palestine and active colonization by Jewish agricultural and industrial workers.

Zionism has met with terrific political setbacks, but in the face of racial and religious opposition has doggedly held to its ultimate aim with typical Hebrew resoluteness. In 1914 Palestine had a Jewish population of around

90,000. Jewish immigration into Palestine in the previous thirty years was approximately 45,000.

Recent Progress. When during the World War the Supreme Council of the Allies agreed that Palestine should be placed under British mandate, a new impetus was given the Zionist movement. In February, 1917, the British Government issued the momentous declaration: "His Majesty's Government view with favor the establishment in Palestine of a national home for the Jewish people, and will use their best endeavors to facilitate the achievement of this object."

Since the War Judaism has made tremendous strides in Palestine. By 1928 there were 222 Zionist schools; a Jewish technical institute; an agricultural institute; and the Hebrew University, devoted as its initial project to chemistry, microbiology, tropical medicine and Jewish and oriental culture. Zionism, like western missionary projects to foreign lands, has fortified its religious activity with a vanguard of medical science and organization of hospitals and clinics. It has supported the important Hadassah Medical Organization, which by the end of 1927 was comprised of four hospitals, thirty-nine clinics, five laboratories and a Röntgen institute.

Work of the Zionist Medical Unit. Dr. Krimsky of the American Zionist Medical Unit in Palestine has written of the difficulties which beset the intrepid settlers in the Land of Promise. He says:

The children are pale, puny, undeveloped and undernourished. Many of them are covered with sores and eruptions and the majority of them are afflicted with trachoma and various other eye inflammations. A great deal is being done to improve conditions, especially by the teachers and workers in the schools and institutions, but the widely prevalent ignorance and negligence are very serious difficulties.

The prevalence of malarial fever among the population of Jerusalem is appalling. Among my staff of six local Hadassah sisters, everyone is a chronic quinine eater, and not a week

passes but one or another is laid up with chills and fever. We must have a just, civilized and autonomous form of government, but we must also have what is equally essential—an environment made healthful and a land made productive.

The Story of Comrade Sarah. Among other sanitary provisions, the Zionists have instituted measures for drainage and eradication of the deadly malarial swamps. The passionate fervor with which religious devotion can spur its devotees on to altruistically practical endeavor is exemplified in Dr. Krimsky's account of Comrade Sarah, a young Hebrew nurse and apothecary who assisted him in his round of the clinics. Comrade Sarah was brought up by an indulgent father in a home of wealth. She was accustomed to fine clothes, private teachers and luxurious appointments. Still under twenty, she became acquainted with a group of Hebrew girls working in a Palestinian colony. Finding them idealistic, self-sacrificing and intensely sincere in their nationalistic aspirations, she joined their colonization activities in spite of the fact that this step estranged her from her family. To Dr. Krimsky she described the heavy travail but successful fruits of their labor:

We went to a colony in Galilee and worked there for two years. It was a pestilential place and I was assigned with a half-dozen other girls to the task of planting eucalyptus trees in the great swamp on the outskirts of the colony. Every other day another girl worked by my side, taking the place of the one prostrated with fever. Every day I worked on, standing knee deep in the mud, with mosquitoes stinging my face and neck and hands.

Each morning, with the sunrise, I vowed that I would stick to the task until it was finished; fever or no fever. There was another girl who took the vow also, little Deborah, frail and small as a child, but of undaunted courage and indomitable will. The fever was already in her blood, as it was in mine. One day we had to carry her in—poor little Deborah. A few days later we carried her out and buried her in the little graveyard on the hillside.

I finished my work and left the place, ill and feeble. When you pass through that colony, you will see a majestic grove of eucalyptus trees, where formerly the deathly swamp had sent forth poisonous vapors and virulent mosquitoes.

Outlook for the Future. Zionism has had to fight against tremendous odds. During the years 1926 and 1927, economic stress in Palestine was so great that the Jews began to emigrate. Since then, however, unemployment has decreased considerably, and working and living conditions have improved to the point where the outlook for new Palestine is very promising. It now looks as though the Hebrew people will at length accomplish the purpose of a religious tenet to which they have held steadfastly down through the centuries.

Palestine of World Interest Today. The tiny country of Palestine on the eastern shores of the Mediterranean is a center of interest to the whole world today. Small though it is, it has become a haven of hope and opportunity for the thousands of persecuted Jews who have been driven from their homes in Germany for racial and political reasons. At the present time it is probably the largest country of Jewish immigration in the world.

Boom Times in Palestine. Neglected and abandoned for years, Palestine suddenly came to life and unexpected activity with the immigration of the refugees to its shores. New industrial enterprises were undertaken; homes, hotels, amusement centers and schools were built; and new wealth flowed into the country.

Absorption of 500,000 Jews in Zion. Mr. Morris Rothenberg, president of the Zionist Organization of America, in the opening address of the thirty-eighth annual convention of the organization said that this little country is in a position to absorb more than 500,000 Jews in the next few years. The 50,000 Jews who have flocked to Palestine in the last year, stated Mr. Rothenberg, are merely a "beginning of a mass immigration of sufficiently

great numbers to remove hundreds and thousands of Jews from economic and political danger points of Europe." With the absorption of 500,000 more of these refugees in the near future, the economic pressure on the Jewish people in all parts of the world will be relieved.

All Records Broken. An article appearing in the *New York Times* July 2, 1935 indicates that all records in the history of immigration into Palestine were broken during the first six months of 1935. The immigration department of the Jewish Agency for Palestine announced 30,000 Jews had entered the country in that period. The total is 90 per cent greater than during the same period in 1934.

Statistics of Emigration. Statistics of Emigration to Palestine for the year 1934, excerpted from a report of James G. McDonald, High Commissioner of Refugees coming from Germany, published in the *New York Times*, tell their own story of heartache and hardship. Mr. McDonald states that of the 80,500 Germans who have been driven from their country for racial or political reasons, there are still several thousand who in spite of the fact that much has been done are without places of refuge and have absolutely no security for the future.

Difficulty in Obtaining Employment Permits. What makes the problem even graver is the fact that it is becoming more difficult to obtain employment permits for refugees. Deprived of the right to work and faced by inevitable ruin it is small wonder that the harassed victims are driven to overwhelming despair.

Record of Absorption in Palestine Noteworthy. Commenting on the absorption of German-Jewish refugees in Palestine, Mr. McDonald declared:

Palestine continues to be the chief country of refuge. That small territory, about the size of Wales, has absorbed on a permanent basis more refugees than all other countries in the

world together. This is a record in which the organizations chiefly concerned may fairly take pride.

But Palestine could not have absorbed these tens of thousands if it had not been for the preparatory work carried through during many years of self-sacrifice and devotion by the thousands who have striven ceaselessly for the ideal of a Jewish national home. Nor is it without significance that Palestine continues to be one of the very few countries prosperous enough to complain of a shortage of labor.

The refugees in Palestine are playing a constructive role not only in material things but also in the spiritual and moral upbuilding of their new homeland.

Possibilities of Immigration to Brazil and Argentina. Mr. McDonald has traveled extensively and has studied conditions in many countries with a keen desire to learn the possibilities of immigration and to ascertain what negotiations would have to be made to remove political obstacles standing in the way of the refugees. He believes that Brazil and Argentina offer great hope for future immigration of these people.

The League and Refugee Problem. The High Commissioner feels that the work of the commission should be dissolved and taken over by the League of Nations. The previous work has been done under its authority but not under its direction.

A World Problem. The situation confronting the thousands of refugees coming from Germany has become a world problem. That the conditions have not been caused by the results of devastating disasters such as war, famine or earthquake, but because of the brutal policies of a nation that has always boasted of its culture, make the situation even more deplorable.

It is hoped that the League of Nations will assume direct responsibility for the German refugees and that the thousands who are still unplaced and whose plight grows more precarious from day to day will soon find places of refuge where they will be permitted to work,

found new homes and look forward to some measure of future security.

Christianity and Islam have grown out of Judaism, but differ from it in that the Hebrews have never elevated Moses as Christianity has elevated Jesus, and Islam, Mohammed.

CHRISTIANITY'S CONTRIBUTION TO THE WORLD

The most distinctive single feature of Christianity and its chief contribution to the world are the character and teachings of its founder, Jesus. Born of humble parentage in Bethlehem 2000 years ago, he learned the carpenter's trade during his boyhood. Little is known of his early life until he came to John, the preacher and prophet, to be baptized. Later he gathered together twelve followers or disciples and for three years went about the countryside preaching, teaching and doing good.

He gave to the world a conception of deity as a loving father, the belief that the development of life goes on after physical death, a moral code which embodied the sacredness of human life, the value of unselfish service to others, and the urge to relieve sorrow and suffering.

His principles as later recorded in the New Testament have been called by ethical teachers and philosophers the highest and most idealistic code of morals which the world has ever known. His ideal of humble, unselfish service to his fellow men and his practical responsiveness to relieve suffering have been of enormous influence wherever men have carried out his teachings.

The Jewish people did not accept Jesus as the long-expected Messiah. His teachings were antagonistic both to the rabbinical traditions and the Roman authorities who were in political control of Jerusalem. He was tried before Pontius Pilate, the Roman governor, who delivered him for crucifixion during the Passover festivities, at the early age of thirty-three years.

Schism between Judaism and Christianity. After his death, variation in interpretation brought about a schism in Judaism, identifying Christianity as an entity distinct from the parent religion. The exact course of the break has been a question of much debate. Judaism was a religion of intricate ceremonial and strict ritual, governing diet, hygiene, property and almost every other phase of Hebrew existence. Jesus recognized the danger of too literal following of the "law" without realization of the spirit of the law, and taught that conformity to ritual must not take the place of morality. He taught that the "law" is observed so as to make life more livable for man, rather than that man was made for observance of the law.

Judaism held as a tenet of faith the coming of a Messiah or savior of the people, but did not accept the divinity of Jesus or recognize his virgin birth. The followers of Jesus accepted him as the divine Son of God, believed in his miraculous birth of the Virgin Mary and in his mediation between God and men.

Early Christian Beliefs. In Christianity there grew up the conception of the Trinity: the Father, Son and Holy Ghost, a doctrine which was destined in succeeding centuries to give rise to various Christian schisms. Judaism did not accept the doctrine of the Trinity or the Christian doctrine of the vicarious atonement. The latter apparently was an effort on the part of the early Christian church to explain the tragic martyrdom of the Messiah Jesus, the acknowledged Son of God. Jesus was the only founder of a great religion who met death in early martyrdom. It would seem that the fathers of the Christian church rationalized the martyrdom by maintaining that man was born in sin and that Jesus died to save the world from sin by vicarious atonement.

It is a sad commentary on the frailty of human intelligence that succeeding generations have invariably marred

the beauty and simplicity of the teachings of great men, with hair-splitting doctrines and superfluous interpretations. Thus the teachings of Jesus, who enjoined against the danger of making law observance paramount to the spirit of the law, in the succeeding centuries became encrusted with layer upon layer of superimposed doctrine.

Rise of the Roman Catholic Church. After the death of Jesus, the growth in number of converts to Christianity was at first small, but later made organization imperative. But to this new faith there clung much of the ritual of the Roman polytheism which it supplanted. The mass of the people felt the necessity for signs and wonders. They craved mysticism. Along with a hierarchy of bishops and priests, there grew up vast ceremonials involving foods, feasts and sacraments, to which were attached mysterious religious significance. As early as the second century A.D., Christianity had taken tangible form as a Catholic Church with well-defined ecclesiastical priesthood and rigid codes of religious observance.

It was during the Middle Ages that the first hospitals or homes for care of the sick were founded and maintained by the monks and other charitable bodies of the Catholic Church. It was in the monasteries too, where the light of learning was kept aflame during the barbarian invasions.

While the Roman Church of the feudal ages became more deeply involved in the political confusion presaging the birth of modern empires, yet it was a marvelous steadying influence and the preserver of civilization.

The Reformation. With Martin Luther and the Reformation of 1521-22, Christianity split into two factions. The reformists, or Protestants, returned to the simpler teachings of Jesus and the early Christian church; while the Roman Catholic Church retained the mighty theological structure of papacy, patriarchs, archbishops and prelates, with its vast ritual of mass observance, interceding

priesthood, and confession and penance for the absolving of sin.

The Growth of Creeds and Sects. Nor was Protestantism destined to maintain Christ's moral and ethical teachings in their original simplicity. As in the Roman Catholic Church, so in the Protestant wing of Christianity dogma raised its hydra-head. Protestantism became divided into a variety of sects, each with its faith in a specific, detailed creed.

OCCIDENTAL ORTHODOXY VERSUS MODERNISM

The conflict between orthodoxy and liberalism involves occidental religions as well as those of the Orient. Judaism, Protestantism and Catholicism—all are being forced by the swift march of events to reinterpret old doctrines and discard theologies incompatible with the findings of modern knowledge. Thus each wing of religion is divided into two factions: those who cling to the letter of the ancient law, and those who, while retaining the highest ethical concepts of their forbears' religion, individually accept the onward march of progress.

In Judaism. Modern Judaism is disrupted into two schools of thought: those who cling tenaciously to strict observance of intricate rabbinical ritual and those who prefer to interpret Judaism in terms of moral responsibility, discarding theological anachronisms.

In Protestantism. Protestantism finds itself in a similar controversial predicament. The variance of different denominational creeds presents a problem to scientifically minded Protestants. A step in the direction of cooperation and agreement is evidenced in the vigorous, concerted activity of organized Protestant churches called the Federal Council of Churches of Christ in America. Its immediate project has been the practical obligation of uniting the creeds in social endeavor; its ultimate accom-

plishment may be a unified church with modernized theology compatible with present-day intellectual progress.

In Catholicism. Most conservative of all in acceptance of change is the other wing of Christianity, Roman Catholicism. The Church of Rome still holds its converts to traditional theology, rejecting many findings of science and subordinating knowledge to the authority of ancient doctrines.

Agreement between Science and Modernism. Many adherents of Judaism, Protestantism and Catholicism have found difficulty in accepting new and changing religious concepts. On the other hand, there are scholars, scientists and clergymen who have not found the modern scientific conception of the world incompatible with their individual religious concepts. Whether within or without the church, this constantly growing body is the germ of vitality which may happily burst forth into a new religious life; or if their efforts fail, they will widen the distance between unchanging tradition and the newer concepts.

ETHICAL CODES OF JUDAISM AND CHRISTIANITY

From an ethical viewpoint, Judaism, Protestantism and Catholicism as a unit have taught a code of morals which has contributed tremendously not only to the welfare of the individual but to society at large. Confucianism, Buddhism and Taoism have promulgated highly commendable ethical codes. Their great weakness has lain in their negative conceptions of inaction and complacency under unprogressive conditions of life. Judaism and Christianity have embodied a positive ethical ideal, which has thrown the windows of the soul wide open to new possibilities of human achievement.

Greatest Good to the Greatest Number. Judging by the standard of "the greatest good to the greatest number," Hebrew and Christian ethical codes foster a high standard for sex relations, marriage and family life, the care

of children, and the preservation of life under healthful conditions. Both religions teach strict monogamy and purity in sex relations, and extol the integrity of the family unit. Christianity has been the only one of the world's religions to elevate the position of women and permit them educational and economic advantages increasingly comparable with those available to men. It has also been the only religion whose adherents cherish their children of both sexes with equally protecting physical, mental and spiritual training. In the so-called Christian countries the child is considered a sacred obligation and, in hygiene, sports, diet, and dental and medical care is given more careful family and governmental attention than in any other part of the world. The elevated status of woman affords her social and economic liberty, healthful sports and outdoor activities, and active participation not only in affairs of the home but in business, politics and education. Emancipated womanhood has meant a healthier womanhood, physically and mentally, and a sturdier progeny.

INFLUENCE OF RELIGION ON HEALTH

Evidence of the high ethical standards of Judaism and Christianity is no more strongly and tangibly apparent than in the relationship these religions have assumed toward bodily and mental health. In the latter eighteenth and early nineteenth centuries, when Protestantism was experiencing a renaissance of religious ideals, this new impulse was exhibited most strongly in an increased sense of duty to one's fellow man. It is Soper who reminds us that this period saw the emancipation of slaves, the reformation of the prison system and the founding of the great missionary societies. In Catholicism, as well, there had sprung up a new endeavor, which fostered activity rather than contemplation. Revivified Catholicism anticipated the practical needs of the times by promotion of

education, missions to heathen countries, works of charity, prison reform, nursing and the founding of hospitals, orphanages and asylums for the afflicted, the aged and the poor.

At the present time Catholic, Protestant and Jewish religious organizations support many hospitals, orphanages, homes for the aged, blind and crippled. Wherever Christian civilization has spread, it has increased the facilities for education, improved sanitation, the food supply and general living conditions.

Foreign Missions and Medicine. The foreign missions of the Christian faith, while ultimately proselyting in nature, with great practicality set themselves to the heavy task of educating the ignorant, healing their illnesses, and raising their standards of living. Medical missions have held a unique and powerful place in the progress of the backward races. Dr. Osgood in 1908 reminded us that David Livingstone won his way through Africa with his medicine chest and a few surgical instruments; that Peter Parker opened China by use of the lancet; that Dr. Allen saved the life of a Korean prince and opened the Hermit Kingdom; that Dr. Elmslie with his medical skill paved the way of enlightenment to Kashmir; that Dr. Carr opened Ispahan, Persia, to missions when other methods had failed; and that the evangelist may be driven out by fanatical mobs, but no power can stop the sick from entering the mission hospital.

Modern medical missions have been greatly developed, notably in Moslem lands, India, China, Japan and Korea, where their activity has not only wielded singular power in elevating standards of living, but has contributed generously to the furtherance of scientific knowledge in the study of deficiency, tropical and other oriental diseases.

Missions and Social Welfare. Missions have also aided in developing agriculture and in solving racial and industrial problems. Modern mission methods are well exem-

plified by the mission work in India, which embodies vernacular preaching by Indian preachers and missionaries; educational programs for both sexes from the village school through to high school and college; medical work in the form of hospitals, schools and clinics; betterment of the persecuted masses such as the untouchables; and social service work in the native homes.

The churches of practically all Christian faiths have fostered the great international project of mission work. They have stimulated social reform, provided education for the masses, healed the sick, and raised the status of women and children. In the words of a commentator, through the agency of the foreign missionary work of the western churches, there is coming into being in all countries the outline of a common, secular civilization.

Canon Law and Medical Practice. There is another aspect of the influence of the occidental religions on health which concerns itself with the more intimate practice of medicine than do the educative and protecting social service programs of these religions. Here, too, there is sharp schism between traditionalism and a liberalism which keeps pace with modern science.

Regarding the former, I refer to the explicit edicts of the Roman Catholic Church in the manner in which the science of medicine shall conduct itself in certain crises which arise affecting sexual relationships and family life. A delegation of physicians received at the Vatican during the summer of 1930 were addressed by the Pope: "On the question of decency in dress, how often do people try to secure the complicity of doctors in order that a veto against indecent dress should not apply? Many other things gain vogue under medical pretext which would have disastrous consequences if they got a foothold among sound medical practitioners, such as things concerning conjugal life and sexual relationships, offenses against maternity, and therapeutic abortion."

Holding to the traditional edicts of the church, Catholicism does not tolerate medical interference with her authority in matters of family and health on which specific ecclesiastical instructions have been issued. She forbids therapeutic contraceptive practice and urges upon her communicants the duty of rearing large families.

Catholic Edicts in Moral Medicine. The authority assumed by Catholicism in matters which Judaism and Protestantism leave to medicine is clearly illustrated in a 1922 textbook of instructions by the Reverend Edward F. Burke, Professor of Theology, St. Mary's Seminary, Cleveland. Issued as a text for schools of nursing, Professor Burke's book, "Acute Cases in Moral Medicine," is apparently intended as a source of binding precept to physicians as well, since it definitely outlines the professional conduct of the physician in obstetrical and other cases.

Abortion, Professor Burke defines as direct or indirect. *Direct* abortion is that in which the fetus is the object of attack and *indirect abortion*, that which occurs when the fetus is in no wise the object of attack. Direct abortion, be it criminal or therapeutic, is never permissible upon a living fetus, according to Professor Burke's text:

Hence, there must be no artificial disturbance of pregnancy in the toxemias of pregnancy . . .; in acute or chronic infectious diseases, as pneumonia, influenza, typhoid, tuberculosis, malaria, chorea; in those diseases which it is claimed pregnancy aggravates, as diabetes, heart disease, pernicious anemia; in case of contracted pelvis or any pelvic malformation.

The text is likewise explicit regarding the conduct of medicine in such directions as the surgical removal of ectopic fetus, therapeutic sterilization, contraception, and baptism under emergency, including the correct procedure of baptism of the fetus born in various forms of abnormality, and in the government of cesarean section for the purpose of baptizing the fetus in instances of sick, dead and dying mothers.

Medicine and Religion Cooperate in Healing. A remarkable experiment in which a religious body enters directly the field of medicine, is seen in the recent activities in "Christian healing" undertaken by the Body and Soul Medical and Mental Clinic, New York City. The movement, an encouraging example of scientific cooperation between physicians and clergymen, is described by Edward S. Cowles, M.D., as director of The Body and Soul Medical and Mental Clinic, in a 1925 published report entitled "Religion and Medicine in the Church." Dr. Cowles wrote:

The words *Christian Healing* are taken to mean any form of healing, whether medical, social, mental or spiritual that will help to restore health to the patient. . . . Christian Healing, however, must not be confused with miraculous healing, or what is more commonly known as "supernatural healing."

The Clinic is conducted under the auspices of Saint Mark's Church, New York City, and at the time of Dr. Cowles' writing had been successfully in operation two years. It provides for cooperation between medical men and ministers in the restoration of bodily and mental health.

Religion Vital in Treatment of Disease. Patients come to the Clinic in increasing numbers from the immediate vicinity, distant cities, and from foreign countries. They represent every sort of disease of the body and of the mind. Most of them, according to Dr. Cowles, have run the gamut of the doctors who have looked upon them merely as "cases."

Treating the Whole Man. Dr. Cowles reports that many of the Clinic's patients have been healed through medical and surgical intervention, that hundreds of borderline cases of insanity have been corrected under the supervision of trained psychiatrists, and that the Clinic has been of infinite value in training the young in respect for their bodies.

Physician and Clergyman Cooperate. Dr. Cowles concludes:

The Clinic has demonstrated that there is a real and vital place for the clergyman in the treatment of sickness, and that the association of the two professions of medicine and religion has been of benefit to both. The physician has become less material and more spiritual. The clergyman has learned a higher respect for the work of the scientist, and has learned the value of truth as against the tradition which was his heritage in the Church.

MOHAMMED, LAST OF THE PROPHETS

Islam, or the religion of submission to the will of God, came into being with the life of its founder Mohammed, who lived 570-632 A.D. It has been called the "stepping-stone toward Christianity." It claims to be the divine revelation of God to Mohammed, the last of a succession of inspired prophets beginning with Adam. From a small handful of converts, Islam has grown through the intervening centuries to an estimated two hundred millions, and its converts may be found from China to western Africa and from Russia south to the seas. Soper has called the religion of Mohammed "the most powerful of all the rivals of Christianity in its attempt to win mankind."

Early Life. Mohammed was born in the Arabian city of Mecca. Orphaned, he was brought up by his grandfather and an uncle. He learned the habits of the desert Bedouins and pursued trading north, east, south and west through the desert. After his marriage at twenty-five to a wealthy widow of forty years, he apparently became a shop-keeper, selling farm produce.

Reformer and Prophet. Whether, as some commentators believe, Mohammed experienced a period of mental depression and spiritual revolt against the social evils of his day, or whether, as other historians interpret it, he was politically ambitious to become dictator of the Arab community, certain it is that he presented himself as a



FIG. 13. MOHAMMEDAN THEOLOGIAN.

Early seventeenth century. (*From the Museum of Fine Arts, Boston.*)

prophet and direct avenue of communication between God and man. The religion of his native Arabia was idolatrous and animistic, but had felt the influence of Christianity and Judaism. Mohammed rebelled against the paganism of his day and, borrowing freely from Judaism and Christianity, formulated a doctrine which he called Islam or Hanifism.

His Theology. Commentators have concluded that Islam was probably a restoration of the religion of Abraham. Mohammed taught belief in one God as absolute creator and ruler of the world, the angels, the prophets, and a day of judgment. His theology maintained that God ever revealed Himself through prophets, through whose mediations he gave his inspired message to man. Thus through Moses, God gave the Law; through Jesus, the Gospel; and through Mohammed, the Koran. He taught, too, that Mohammed was the last of the prophets and there would be none to follow him. Mohammed invested Islam with belief in a paradise of voluptuous and sensuous pleasures for delight of the physical body, and in a gruesome hell. An element extremely important to the future course of Islam was its accepted doctrine of predestination; that every act of man, even his belief and unbelief, is predestined by God, and that man can do little but accept the will of God. "*It is kismet.*"

The Koran and Its Teachings. The accepted written oracle of Islam is the Koran. It has been doubted that the Koran was written by Mohammed, for it has been supposed that he was an illiterate man. It was undoubtedly written down during his lifetime, and later correlated into a semblance of order from previous writings and oral teachings. Along with theological speculation and rules for ethical conduct, it prescribes a rigid ritual called "the Five Pillars of Islam." Thus every Moslem must be able to repeat the Confession of Faith, must pray five times a day, fast during the month of Ramadān, give alms for

building of the mosques and other religious purposes, and make the pilgrimage to Mecca once during a lifetime.

Mohammed as Dictator. Mohammed proceeded very slowly on his self-appointed mission as the mouthpiece of God. He first drew unto Islam the members of his immediate family and near relatives. For three years his disciples functioned as a secret society. When he made his appearance as a public teacher and preacher, he met with severe and extremely hostile opposition from the idolatrous population. His followers were persecuted, and many fled into exile. Eventually, at the age of fifty-two, he was invited to the city of Medina as dictator, and from that time onward met with unbroken success.

To strengthen his position, he bound his followers to him with every possible tie. To strengthen his lineage with sons, he contracted many marriages, instituting a royal harem. It has been said that his seclusion of women behind the veil was consummated because of his extreme jealousy of his wives.

As dictator of Medina, he assumed the rôle of a despot and waged many successful campaigns among the neighboring tribes. Though in Islam he had borrowed freely from Judaism and Christianity, he now reacted against the latter, and bade the faithful to pray facing the pagan temple at Mecca, instead of Jerusalem. Query has been made also whether his reaction toward paganism might not account for his adoption of *Allah* for the name of the deity.

Mecca Becomes the Holy City. Nothing succeeds like success, and soon Mohammed was able to reenter and hold the city of Mecca in his power. He retained Medina as his political headquarters and set up Mecca as the hub of his religious universe, allowing non-believing Arabs four months of grace for conversion before he resorted to conversion by force.

Social Reforms. Mohammed is said to have instituted

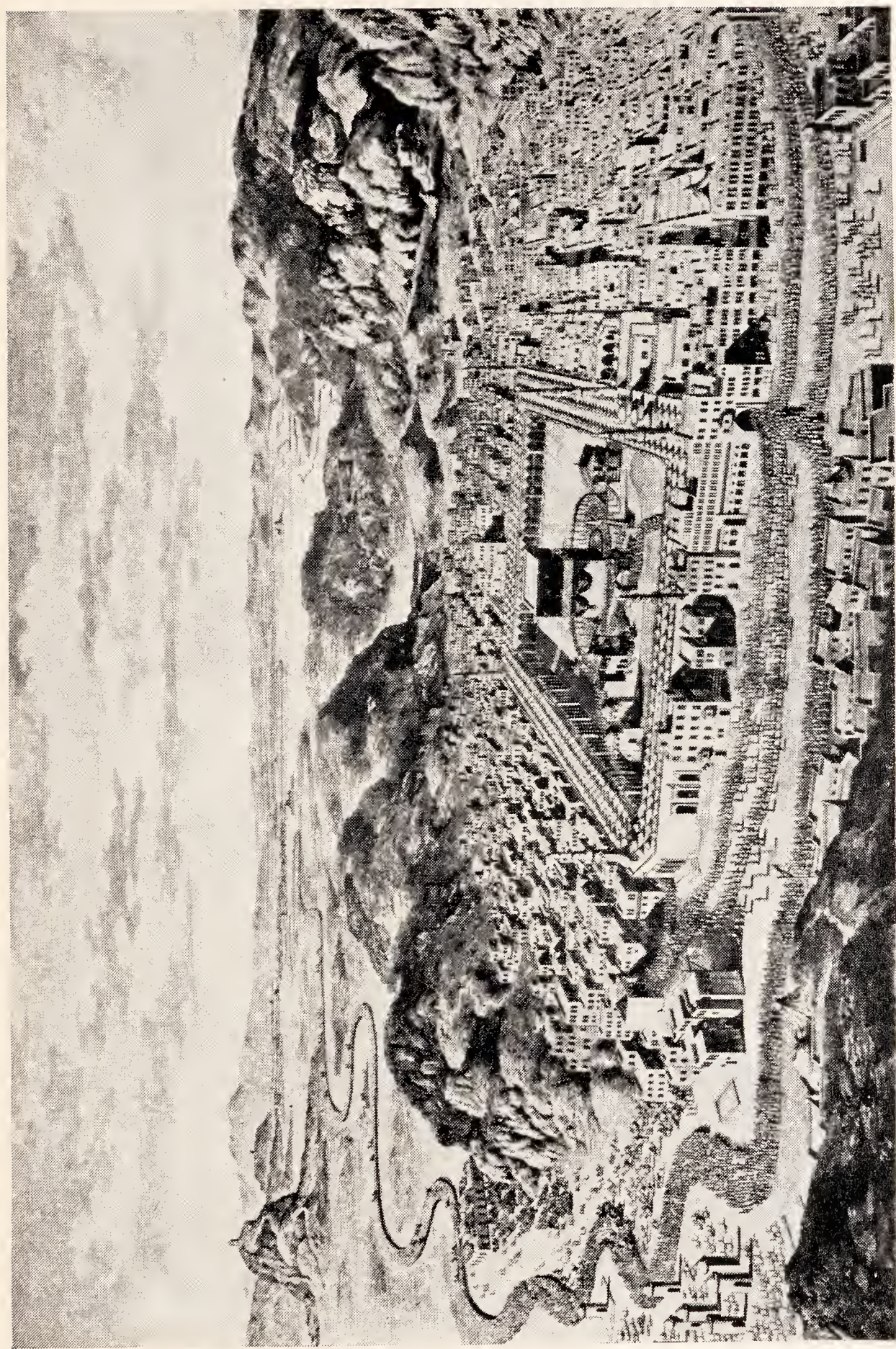


FIG. 14. MECCA.
After an Engraving by d'Ohson, 1790.

three important social reforms: prohibition of blood feuds; abolition of infanticide; and, strange as it sounds in the light of the later status of Mohammedan women, their right to inherit property.

Islam and Social Welfare. Islam has always carried on an extremely active proselytism, with extraordinary numerical success among the unenlightened pagans of the eastern hemisphere. Towards individual and collective social welfare, its tenets have been narrowing, unprogressive and conducive to a variety of evils.

Position of Women. Polygamy and the seclusion of women behind the veil and in harems have been responsible for the degradation, unenlightenment and virtual slavery of Mohammedan womanhood. While Islam has permitted girls some education, it has usually been to a haphazard and rudimentary degree. In general, the *purdah* or screened women have been kept in dense ignorance and stolid apathy. Purdah women upon maturity pass into practical life-imprisonment within their homes. Seclusion has kept them in the grossest ignorance. Close and monotonous existence in the harems has frequently led to moral degeneracy and sex aberrations.

Health and the Islamic Concept. In the matter of health, the seclusion of purdah has made Moslem women peculiarly susceptible to the ravages of tuberculosis, with a high mortality. Without exercise, their bodies are weakened and a common feminine posture appearing in the missionary purdah hospitals shows the characteristic narrowed chest and frequent spinal deformity.

The purdah hospitals give practical proof, too, that polygamy has failed to curb sexual promiscuity, with its attendant physical ills. Nearly all of the purdah women who come to a northeast hospital in India are venereally infected; many of them are sterile as a result of pelvic inflammation following gonorrhea. Among the Baluchis

the clergy are so immoral that syphilis is commonly spoken of as Mullah's (Islamic teacher's) disease.

Moslem Mothers and Superstition. The ignorance of Moslem mothers in matters of hygiene, their superstitious practices and diseases arising from immorality have been responsible for an extremely high infant mortality. The Jewish Hadassah Medical Organization of Palestine, during its years of activity, has had to cope with a vast array of animistic superstitions. A typical event is that of the Moslem mother who brought to the Hadassah Infant Welfare Station a puny, sickly baby wrapped in a dirty shawl, claiming that a neighbor had cast an evil eye upon the baby. The mother had branded the infant's stomach with a hot iron to drive out the devil and had also tried the power of an amulet, but the baby continued to grow weak as the devil grew stronger. Finally, the distracted woman decided to try the magic of foreign doctors.

Islamic Concepts Inimical to Progress. Ethically, Islam has been unsocial and prohibitive of progress. The doctrine of predestination and belief in Mohammed as the last of the prophets have curbed all moral progress and social reform. What Allah has decreed cannot be changed. Salvation in Islam has meant not the development of the divine nature in man, but obedience to arbitrary rules and regulations. The ethics of Islam are directly opposed to those of Christianity. Do unto others as you would that men should do unto you; love your enemies—these are the precepts of Christianity. Do unto others as they do unto you; war against infidels, curse them and kill them—these are the precepts of Islam.

Wherever Islam has gained converts, it has fostered illiteracy, slavery, polygamy, divorce, and the seclusion and degradation of women. It has been said that no Moslem will trust another man in his *zenana* because he knows the liberty would be regarded as an opportunity. Innocent

social companionship between the sexes is a concept which cannot be grasped by the orthodox Islamic mind.

Islam and the World War. Modern Islam has been torn and uprooted by the mighty upheavals of recent world movements. Especially since the World War has there been a decisive schism between orthodoxy and modernism. The masses remain strictly orthodox, but Mohammedan scholars who have contacted western civilization intimately have been the source of considerable reform activity in an endeavor to modernize Islam and make its teachings compatible with science and acceptable to enlightened Moslems and non-Moslems alike.

The Reform Movement. The reform movement seeks to eradicate such objectionable features as polygamy, slavery, intolerance, and the degraded status of women. Thus, Mirzā Ghulām Ahmad, an advanced Islamic teacher of the province of the Punjab, India, who died in 1908, interpreted the doctrine of "war against unbelievers" to mean a striving after righteousness and against wrongdoing.

The most violent reactions against orthodox Islam have occurred in Turkey. It has been said that no sacred pilgrimage to Mecca has been made by a Turkish Moslem since the World War. Religious orders have been suppressed by the Turkish Government. Polygamy has been discountenanced. Women are permitted to appear unveiled, and the government edict has forcibly prescribed the wearing of European hats in place of the fez, the Turkish national headdress.

That Islam does not accept the new order unchallenged is frequently evident in the extreme hostility of the masses; but the leaven is potent. Whether a new Islamic theology will evolve from the welter of change, whether her converts will turn to atheism and agnosticism, or whether other more modern religions will gain their allegiance, these are matters for the passing years to disclose.

Chapter IX

THE PATIENT'S FAITH

WIDESPREAD moral and religious training affects the attitude of the patient even in non-religious homes. His viewpoint in regard to the treatment has a decided influence upon its outcome.

Laws and moral and religious teachings are not identical everywhere and even contradict each other in many instances, bringing about a conflict of duties. To the objective right and wrong standardized by legal enactments, conscience opposes a feeling of right and wrong. This feeling varies, according to the religious background and moral views of the patient. Sometimes they are carried far beyond the actual and original meaning of the precept, for they cannot in each individual instance determine what is permitted and what is forbidden.

A Question of Conscience. Every general practitioner or obstetrician occasionally has among his patients a pregnant woman, who, according to his opinion, is unable to bear children without seriously injuring her health and endangering her life. When he advises interruption of existing pregnancy, she declines to permit such action because of her religious beliefs. She would be conscience-stricken if she consented and would rather endure the

physical ills that threaten her than suffer the reproaches of her conscience. Under such circumstances, even though her life is endangered, the physician has no other course than to cease his endeavors to obtain her consent to operative intervention.

Confidence of the Patient Important. The previous chapter has shown how modern religious beliefs affect the physical and mental outlook of many peoples as regards health, sickness and the practice of medicine. An integral part of the patient's attitude and a factor of great moment in every therapeutic undertaking is *the confidence of the patient in his medical adviser*; or, in other words, the *faith or belief* the patient has in him.

Of course, in a large number of instances the subjective bearing of the patient toward the physician is without import. This is so, for instance, in short, well-defined surgical interventions or in the administration of drugs which act with known precision, either purely chemically or physically, upon the physiological organism.

When the physician removes a particle of coal dust from the eye, the matter, aside from any special and unexpected complication, is finished, whether or not the patient has confidence in the doctor. At most, the patient may, for a short time after removal, imagine nothing has been done and the particle of dust is still there. In spite of his positive lack of confidence it will not be long before he will be convinced of the contrary.

The same is true when a dilute hydrochloric acid is administered to regulate a deficiency of gastric function, or when a cold compress is applied to the neck to alleviate pain due to inflammation with swelling. The effect of these remedies is known and consistent and is not materially affected by the attitude of the patient.

Outcome of Illness May Depend on Confidence. In many cases, however, the confidence of the patient in his physician has a distinct influence on the outcome of the

case. This confidence or belief may have very different causes, depending on the patient himself. It may often be due purely to personal acquaintance which has nothing whatever to do with medical art or the professional qualifications of the physician. Even so, this confidence is a valuable asset in the curative treatment of a patient. Experience has taught us that personal confidence is always a real force, no matter how irrational it may appear. Such highly personal or mystical confidence may constitute the pivot upon which the outcome of the specific illness may turn, especially when nervous elements are a marked factor of the disease. In many instances blind confidence is a great advantage, particularly when the physician possesses also special medical qualifications.

The confidence or faith of the patient in a physician is his conviction or hope that the doctor may be able to help him in the disorder from which he suffers. In each individual instance the patient attributes this power to his physician, sometimes even when he does not know whether the doctor has had success in the treatment of a single case. Such a mental outlook is purely subjective and need have no real foundation. At the same time, we must not lose sight of the fact that all confidence and all faith within a limited circle generally exert a certain suggestion or contagious power upon one's companions.

In practical life this confidence and faith are normally based upon the favorable results the observer believes he sees regularly in the patients treated by the respective physician. Actually it is always a question of the outward semblance of success. This may exist even where success has by no means been attained and especially where there is no real causal connection between the apparent restoration to health and the physician's art. Seeming cures are not infrequent and accidental successes not unknown to medicine.

Medical Success Depends on Public Confidence. In

medicine, as in other fields, experience daily shows that a positive error in treatment may be nullified by an action which, standing alone, would be considered erroneous. Sometimes luck or good fortune determines results. The complicated entanglement of causes that is responsible for results often lies hidden from the most assiduous search of the most competent expert and usually cannot be recognized by the general public. It is, however, upon the judgment of this public that the physician depends for the confidence and belief in him that are so necessary to his medical success. Yet experience has shown that continued success does not depend entirely on chance. Charlatanry and incapability, on the other hand, sooner or later become exposed through their own failings.

The confidence of a patient in his physician is important for a number of reasons. An indispensable premise for each instance is that the physician be actively engaged in practice. Without this prime requisite he would never be in a position to exercise his art no matter how earnestly he might desire to do so. According to medical ethics, the physician never goes to the patient of his own initiative. He does not seek out the patient, press himself upon him, nor offer his services to the person who may be ill. He awaits the patient's visit or goes only in response to his call, whether it is given by the patient or by parents, relatives or friends.

Accidents or other emergencies are special exceptions. Here, without special request or authorization and possibly even against the expressed wish of the person concerned, he acts through a sense of human duty or because of the exceptional character of the profession of medicine. Traditional obligations, legal rights and popular demand morally oblige him to do this.

In each concrete case it is clear that the physician in whom the patient has the greatest confidence will be appealed to for help and called upon for advice. This does

not actually take place in practical life as generally as one would suppose. Especially among the lower and less educated classes there comes into play a certain intellectual or moral inertia, disinterestedness, or perhaps an indolence and apathy produced by material want. As a consequence, without further reflection and entirely at random, any physician is selected who may happen to be convenient or who may be recommended by any comparative stranger.

Personal Confidence Indispensable. When the patient has placed himself under the care of a certain physician, whether through confidence or pure accident, then from beginning to end of treatment *personal confidence* is not only important but indispensable. This is so for the recognition of the nature of the disease, for the discovery of its causes in which the previous history of the patient is of such great significance, for an estimation of the chances of recovery, for the choice of the kind of treatment and the remedies, for their correct application and use and for the successful outcome. Confidence is especially necessary in those cases in which nervous and psychic factors are markedly manifest.

Authority Required. "It is the physician who cures, not the medicine," says a medical proverb. In other words, the physician should cure not the *disease*, but the *patient*. All this is possible only if the physician exert over the patient a certain authority. If any order or system in treatment is to be obtained, *authority* is required.

Every treatment of any extent must be orderly and systematic. Order and system need not be rigid but must constantly adapt themselves to altering conditions. It is the task of the physician to find what is properly adapted to all existing conditions, to the individuality of the patient and his personal and economic position.

Lack of cooperation in carrying out the treatment is a real misfortune. If the plan elaborated and thought correct by the physician does not receive the proper response and

support from the patient, how can he use his medical knowledge and ability?

How Confidence Affects Treatment. The greater the confidence in the physician, the more carefully will his instructions be carried out in detail—as to rest, diet, medicine and other factors. Diabetic patients will sometimes indulge themselves with disastrous results. Patients weakened by a long, serious illness will have so little confidence in a physician's plan of treatment as to get out of bed or leave home long before the doctor believes it is safe. Some do not carry out directions for taking medicine, either failing to take it or using larger doses than prescribed on the theory that if a little helps a lot will help more.

On the other hand, there are patients whose confidence in their physician is so profound that they carry out every instruction scrupulously and could not be dissuaded from the physician's plan of treatment by any other person or extraneous circumstance.

Long Illnesses Require Faith for Recovery. Certain diseases and conditions require a long period of treatment, during which slow progress can be made. Developing over many years, they cannot be cured in a few weeks. The physician can make consistent progress only if given the full cooperation and faith of the patient.

One Physician after Another. Some families, in ignorance or complete disregard of medical ethics, call in a second physician without dismissing the first doctor. They do not even tell the second physician that another has been treating the patient. Naturally the second physician, without consultation, does not know what measures his predecessor has taken or their results. How then can the two treatments work together for the full benefit of the patient, and how can consistent progress be expected?

Without proper authority, the physician cannot carry the responsibility of treatment. In fact, the authority of the physician may often be regarded as the correlate of the

confidence of the patient. By bestowing his confidence, the patient gives the physician authority over him in certain directions. And because there exists an organic connection between confidence and authority, one cannot prosper without the other for any length of time. Tact is of incalculable value for the cultivation and maintenance of these two professional assets.

Errors in Practice. Other factors affect the faith of a patient in his physician or in the medical profession. Among these are errors in practice. A human being is a variable quantity in which innumerable factors play a part. Unlike mathematical tables or various chemicals, certain other factors in operation will not always produce the same effects. Even a physician of the highest standing may in an individual instance be subject to error in treatment. How much more will this apply to the average physician, to the one below the average in attainment, or to the inexperienced physician!

If a patient has had a distressing experience, it easily becomes subject to gossip; for it is quite natural that the diseases and afflictions from which a man suffers are of particular importance to him. Surgical operations and various illnesses appear to the sufferer the most important thing in his life and at all times, opportune and inopportune, constitute for him a most fascinating and predominant topic of conversation.

How Gossip Affects Faith. The patient's faith is also destroyed or weakened when the treatment has been entirely proper but the patient for one reason or another believes it was unskilful or erroneous. People who are level-headed about most matters often have distorted judgment when it is a question of their own illness. To an unprejudiced observer they seem to possess no discrimination whatever.

Moreover, people by nature are more inclined to spread evil reports than good ones, because the former are more

alluring and interesting. They are more apt to lend a willing ear and blind credulity to slander than to praise. An error in practice frequently becomes so distorted and magnified as it passes from mouth to mouth that the final story is almost unrecognizable. Often a highly unjust generalization is made regarding the physician in question.

Physicians practicing in foreign neighborhoods filled with people of very emotional temperament often feel the influence of swiftly spreading rumor. One such physician told me that one case, in which he had actually expended only half the energy and time as on another more difficult case, proved a rather spectacular success. The news of the woman's recovery spread through the neighborhood like wildfire. Soon nearby mothers were bringing their children to him for various ailments, and it was not long before practically all the people in that section were calling him in and loudly singing his praises to their neighbors and friends.

But faith which depends on such erratic emotionalism may have its adverse effects. This is illustrated by the experience of another physician in the same city whose practice was increasing rapidly when he lost a patient, a young man with epidemic meningitis. In spite of the fact that he had previously been so successful, this bad news spread even more quickly than the tales of his satisfactory cases, and in a short time many of his patients had left him.

Incurable Patients. There are a large number of cases which, because of their character, are not curable or at least must be looked upon as incurable according to the existing views of medical science and must be managed in accordance with that fact. Often the hopelessness of recovery is clearly apparent to the physician. Sometimes, while estimation of the outcome is most difficult, the further course of the disease soon clears up its true character and suggests the proper treatment. At times circumstances may be such that the physician considers it his duty to tell

the patient or his relatives the entire truth. At others, it may appear to him humane or even a social duty not to divulge the truth except in extreme need.

Non-medical Practitioners. Whatever the circumstances, the average man clings tenaciously to life in spite of great suffering. If his physician tells him that in spite of all his efforts recovery is impossible, he may turn to non-medical practitioners, many of whom hold out hope to incurables. These persons have received no medical training but have taken designations of various kinds, such as chiropractors, Christian scientists, nature healers, magnetopaths, electropaths and other "paths." Paths and cultists of all kinds offer themselves to the public as healers of all or of individual diseases or infirmities. As a matter of fact, they do possess the confidence of extended circles in almost all social and cultural classes and not infrequently are much sought after by their own neighbors as well as by people who live at a great distance from them. Many of these *practitioners* are peripatetic, carrying their wares from town to town and having fixed consultation hours on certain days of the month in different cities and towns.

Of course, what has previously been said applies to those countries in which the practice of medicine is controlled by law so that the treatment of certain diseases and certain means of treatment may be exercised only by licensed physicians. Consequently only a limited number of affections may be treated and a limited number of forms of treatment may be employed by those who are not graduate physicians registered by the state to practice medicine.

The unfortunate person with an incurable disease grasps the straw of hope held out to him by these non-medical practitioners, when his own physician tells him that medical science will no longer avail to save him. This happens in many instances where neither the physician nor any one else can cure the disease in question. Perhaps it is only natural that this should be so, even in this day when so

much is being done for the enlightenment and education of the people; even though many of these non-medical practitioners, through personality and education, appear to be fitted for anything else rather than the practice of medicine.

Hope Held Out to Incurables. Because of the extensive and intensive trumpeting that is constantly going on in order to direct attention to non-medical practitioners, the opportunity for such an unfortunate sick person to find his way into the hands of a non-medical man is never far distant and need never be sought. This non-medical man is perhaps incapable of grasping the actual state of affairs and consequently hopes to be able to effect a cure. At least he reckons with the possibility that in this particular instance nature will help itself. He then conveys his hopes to the patient and his relatives, or reinforces the hopes they already cherish. Treatment is thus carried on precisely as though dealing with a curable case. The patient looks upon this practitioner as the "physician" in whom he believes and confides, because it is he who promises him recovery and a renewed lease of life.

There are many other cases in which the patient's faith in his physician may waver and fade, only to be transferred to a non-medical practitioner or "faith healer" of some kind. Most numerous among these cases are those in which, according to the present status of medicine, curability cannot be precisely excluded, yet all chances are against it.

Recurring Diseases Affect Faith. Recurring diseases, because of their very nature, also affect the faith of many patients. In cases such as tuberculosis, syphilis and many mental troubles, the disease gives periodic manifestations of its existence. The patient's symptoms and sufferings often become very much alleviated or may disappear entirely for a time. Then, after a varying interval, they may arise anew. In syphilis, for instance, the patient may apparently be cured and his blood test be negative; yet, if he

neglects medical treatment or supervision during the three years following, the likelihood is that symptoms will recur.

Take the case of Mr. T., who had developed general paresis as a result of syphilis. This disease is characterized by progressive loss of physical power and mental faculties, due to infection and shrinkage of the brain. It is incurable, but is marked by natural remissions, when the patient appears to be much improved. Such was the case with this man, the father of a family of six children. Social workers told his wife that the disease was incurable, that the family should adjust their minds and their affairs to the idea that he would progressively deteriorate and could never be counted upon for support. Shortly afterward the man "took a turn for the better" and went back to his work. His family was delighted and scoffed at the advice of their physician and the social workers, saying that neither "knew what they were talking about." But the remission of parietic symptoms was only of short duration. A few months later the man had to be committed to an institution for the insane and subsequently died.

Similar instances occur in cases of ulcer of the stomach or duodenum, and above all in tuberculosis, especially of the lungs. Mrs. B., a sufferer from tuberculosis, found that prolonged professional treatment was unable to overcome the disease. Losing faith in her physician, she placed herself under the care of a non-medical man. Then occurred a quiescent period in the disease, when she was apparently much improved. At last, she exclaimed, she had found an extraordinary healer, one whose ability and superiority were proclaimed by the facts themselves and needed no official approbation. Unfortunately her enthusiasm was but short-lived, for a few months later she was in a sanatorium for pulmonary disorders.

Those Wandering Patients. Some people are so constituted that they have no deep or lasting faith in any physician or method of treatment. Like a fashionable woman

discarding old styles for new, they change their physician every season. Casual observation of patients in a doctor's waiting room, in dispensaries and hospitals, will repeatedly show patients who have previously been under treatment elsewhere by the same physician. In the majority of cases this wandering proclivity is not mentioned by the patient. Naturally he feels a certain diffidence and embarrassment in acknowledging the actual state of affairs; and the physician generally respects this feeling.

The personal sensitiveness of the physician must often be repressed when a patient changes doctors from entirely indifferent motives which are not rational or plausible. Any more rigorous attitude might easily lead to the other extreme. Free personal confidence and faith must always be the dominating factor in any relation between physician and patient.

Sense of Inferiority Affects Faith. The faith of some patients and their families is affected by a sociopsychological factor. Doubtless this is because many physicians are brusque and authoritative in manner from the very nature of their profession. They do not always use the proper discretion and kindly tact in maintaining the authority necessary for carrying out treatment. On the other hand, many people instinctively have confidence in their neighbors, friends and daily associates rather than in some one outside their own class. They have a certain shyness toward a high social class or culture, and in their need naturally turn to a person with whom they will not feel restrained—a person who speaks their own language. This is especially true of those who feel that they are conferring a favor through their clientele.

An instance of this kind occurred in Europe a few years ago. A naturopath with a large practice, but not professing to have a medical degree or state license, was accused under a "medical practice act" of illegally prescribing medicines and treating patients suffering from diseases the treatment

of which was prohibited to any but duly qualified practitioners. At the trial a large number of witnesses testified with conviction in his favor. The medical experts called by the state were unable to maintain any adverse criticism of the methods or means he employed in the treatment of his patients. Yet because he had broken the law, the accused naturopath saw himself menaced by a conviction and the loss of his entire practice.

He avoided conviction by showing documentary proof that he was a licensed physician with a university degree. He added that as a *regular* practitioner of medicine he had for many years battled against extreme need, without being able to support himself or his family. Finally he decided to move into another city where he was unknown and to advertise himself as a naturopath. Great success followed. His material worries passed, but he constantly feared some one would discover that he possessed a university education and a medical degree. In turn, he bemoaned the publicity of the proceedings which would probably deprive him of the means of earning his living.

A patient's attitude toward disease and hygiene will probably always be affected by his religious training and by the moral customs of the country in which he lives. And so long as human nature remains what it is, a patient's faith in his physician will also be affected by various factors and will in turn affect the treatment. So long as there exist diseases which are difficult to cure, chronic or incurable, there will always be patients who, in their desire to escape death, will grasp at any possible means of recovery, no matter how visionary.

Chapter X

THE SURVIVAL OF SUPERSTITION

Divine Origin of Disease. Long ago diseases were widely regarded as an affliction from the deity and as a punishment for sin. Even today some people hold this belief that illness is "a judgment of God" and are greatly puzzled as to what they have done to deserve such afflictions. Insurance companies still call floods, tornadoes and volcanic eruptions "acts of God."

Because of this belief in the supernatural origin of pestilences and plagues, prayers, charms and incantations were used to placate the angry deity. Thus, in the mind of man, religion and medicine have since the earliest times been closely connected in the treatment of disease. Even within the last fifty years many people have feared eclipses, comets and tidal waves as warnings of pestilence and disease.

Early Religion the Preventive of Disease. As a result of early beliefs in the divine origin of disease, religion was the great preventive. Medicine was merely the art of healing those who had been unable to ward off punishment or divine wrath. The priest and the medicine-man were the same, or at least closely connected, for thousands of years. Many fanciful ideas and superstitions grew up around

disease and the art of healing; and since the earliest times, medicine and religion have been bound inextricably together in these superstitions.

Physical Origin of Disease. With the gradual evolution of both medicine and religion, men grew to believe in the *physical* origin of disease. Medicine became a *science*, not only to *heal* illness but to *prevent* it. Today this preventive phase of medicine is by far the most effective and important.

Yet the chapter of the history of superstition in medicine and religion is by no means closed. Superstition is most often based upon a fundamental misconception of the scientifically demonstrated laws of causality. It is frequently based on imaginary forces that do not exist at all and which actual scientific investigations have proved to be non-existent. Many of these medical and religious misconceptions still flourish in modified form.

Superstitions Still Flourish. The transition from primitive supernaturalism and incantations to scientific medicine and modern religion was not accomplished without a struggle. Many remnants of early beliefs still persist in current superstitions of disease and religion.

As Huxley said: "New truths begin as heresies and end as superstitions." His saying applies equally to medicine and religion.

Modern man may be civilized; he may possess a store of knowledge much greater than his ancestor of a few centuries ago; he may pride himself on his rational thinking. Yet, when it comes to his emotions or to matters affecting his health, he is as much a child as his savage brother thousands of years ago.

Man Still Ruled by His Emotions. All during his life, certain things are of paramount interest to the average man. Among these are his illnesses, his state of health, and his religious beliefs. Regarding both disease and religion, he still meets many facts and circumstances which are in-

explicable. Unable to satisfy himself through any process of logical reasoning, he often attributes puzzling and mysterious happenings to supernatural forces. Thus many current superstitions of every-day life regarding disease and religion have survived centuries of progress in science and theology.

Many a *healthy* person admits at least a few superstitions. In *disease* he discards reason and becomes extremely credulous. Any remedy recommended by the neighbors or by the corner druggist he accepts with alacrity. His credulity is undoubtedly a survival of the great fear of death, pain and disease which has held man in its clutches since the earliest times. Out of these fears, as well as from discarded beliefs, have grown superstitions of all kinds. While many of them are believed by the ignorant and illiterate, some find credence in all classes, even among the highly educated.

Revival of Superstition since the War. History has shown that there are periodic revivals of superstition. These generally occur when the mental equilibrium of the people has been seriously disturbed. Since the World War thousands of people have reverted to primitive modes of thought; they have evinced a distinct leaning toward naturalism and supernaturalism.

Professor George S. Snoddy, of the University of Utah, says that the current trend toward the mystical and the occult is a direct result of the instability of mind produced by the Great War. "When the habits of thought slowly built up by looking at the world from certain definite points of view are quickly disintegrated through intense excitement or shifting viewpoints," says Professor Snoddy, "there is temporary instability and a return to the cause-and-effect sequences of primitive man."

More Believers in Magic Today than Ever. According to Edwin E. Slosson, eminent chemist, the present revival of superstition is one of the most alarming and widespread

symptoms of our times. "Science rules in the laboratory and the machine shop," he says in his "Sermons of a Chemist." "It does not yet hold sway over the mind of the people. There are today more believers in magic, necromancy, astrology, divination and other forms of witchcraft than there ever were."

As David Starr Jordan has expressed it, "War lifted the lid on society, and secret actions and beliefs held in the dark now dance openly on every green."

Apparitions and Curses. In the late war, many French civilians and soldiery solemnly believed that an apparition of St. Joan was responsible for the sudden shift of the German forces and the saving of Paris.

A few years later certain people expressed the opinion that Lord Carnarvon's death was due to Tutankhamen's curse. For the last fifteen years there has been a great revival of belief in amulets and mascots against sickness and disease.

Modern Witchcraft Murders. We may laugh at the delusions of the colonial settlers who burned witches at Salem, but there are today outlying communities in several of our States where the people thoroughly believe in witchcraft. Illness and death due to "hexing" is a common belief in certain sections of Pennsylvania and New York. Recent murder trials have uncovered this belief and its serious aftermath. In one instance, a woman accused a man of bewitching a girl who was ill. She added that if some of his hair was cut off and buried eight feet underground, the spell would be broken and the girl would recover. The girl's father and brother attempted to carry out this prescription. In the scuffle which ensued, the man accused of "hexing" was killed.

Such an occurrence in the last few years may seem quite incongruous with this "age of science." Yet the man who believes in the existence of demons able to influence human life will naturally regard them quite as powerful as

the most concrete natural forces. The person who endows precious stones with a species of soul and a possible influence upon human happiness or sorrow may, from circumstances, look upon them as a beneficent remedy or a noxious poison. The employment of such mystic forces in conjunction with magic and incantation does not appear unreasonable to believers, no matter how fallacious or barbarous it may seem to those who do not hold the same beliefs.

Evaluate Knowledge by Its Century. We must be careful not to measure the understanding of former times by the standard we enjoy today, nor a primitive people through the eyes of civilization. Things which may appear senseless in the light of present scientific knowledge may not have been at all so at an earlier stage of growth of that knowledge. No one will deny, for instance, that mercury was at one time absolutely indispensable in treatment of the social scourge. Since the advent of salvarsan and bismuth therapy, however, mercury has been relegated to the place of an adjunct. The time may come when mercury, because of its disagreeable effects, will no longer be used and physicians of the future will wonder why syphilologists of our generation placed so much reliance upon it.

With each scientific advance, accepted modes of medical practice change. Witness the revolution in our methods of treating diabetes and pernicious anemia following the introduction of insulin and liver extract, respectively. No physician today would think of treating a case of diabetes according to the accepted practice of ten years ago.

Consequently it is not strange, curious as it may sound to us now, that not so long ago the "gold cure" was advocated as a successful means of treatment in alcoholism and inebriety; that at one time the wearing of an amethyst, in accordance with the literal significance of the Greek name, was considered a protection against alcoholic intoxication.

Past Superstitions Laugh at Present. It seems naive that

even today physicians trained in accordance with all modern requirements will prescribe remedies such as the passion flower solely because the Greek name of such a remedy implies possession of a curative property in such an affliction. We regard it as amusing and childish that Peter the Great of Russia was given a medicine prepared from the stomach and feathers of a magpie as treatment for convulsive seizures present since early childhood. But it sounds more serious when we hear that in most recent times the Turkish government felt itself obliged to banish all magicians and dervishes and systematically to confiscate and burn their books upon magic and other occult subjects. This protective measure was necessary because of the large mortality, especially among children, due to the substitution of ineffectual rites for proper medical treatment. In no other way did the government believe it could eradicate the credulity in such remedies which dominated the large mass of people and to which it ascribed the high death rate.

Even more amazing than this is the fact that today among non-oriental people, both ignorant and educated, medical aid is sought not from a living person trained in medical sciences, but from some renowned physician long since dead and now summoned through spiritualistic means to give advice regarding the treatment of some dear relative. At the present time we are again and again confronted by the belief that the physical decline of this or that patient is due to the fact that some malevolent person "has wished it on him."

Popular Health Superstitions. Certain popular superstitions connected with health and disease are doubtless believed by so many people because their own personal welfare is of such absorbing interest. Possibly the most common health superstition is the popular philosophy that health implies goodness. While a good person may not transgress physical and moral laws which result in sexual

diseases, he may, for instance, eat intemperately or break other laws of health which will bring him quite as much illness as his less noble brother.

That Dangerous Night Air. Until recently many people have believed that the night air caused many diseases. For years they have slept with their windows tightly closed, without sufficient oxygen for satisfactory respiration. This superstition regarding night air arose from a belief that spirits of the dead roamed abroad at night, especially near the battlefields where decaying bodies lay unburied.

It is quite true that in certain countries it is unwise for people to sleep unprotected from malaria-bearing insects; but it is the insects which are dangerous, not the night air. Even today, however, the ignorant sleep with windows tightly closed for fear of diseases which may be borne in on the night air.

The Rheumatism Ring. Within the last twenty years there have been many ardent advocates of the efficacy of the iron or silver "rheumatism ring." Doubtless their belief in its efficacy helped them to forget rheumatic pains and to limber rheumatic joints.

What about Appendix and Tonsils? "If God didn't intend the appendix for some purpose, why do we have it?" query those obstinate persons with appendicitis who refuse to have this vestigial organ removed. There are others who ask the same question about infected tonsils and wisdom teeth.

The human body is wonderfully constructed, but even the most perfect body has certain "physiological sins." With conditions of life changing through the centuries, the body has passed through various evolutionary stages. Certain organs, like the appendix, have become atrophied because they are no longer useful. The tonsils are remnants of lymphoid structures connected with the destruction of bacteria. Under present living conditions they may become a veritable breeding ground for bacteria and a dangerous

source of infection. Thousands of persons have had their tonsils or appendices removed with benefit to their health and general physical condition. As for wisdom teeth, many dentists complain that these late arrivals cause far more trouble than they are worth. Recently, students of dental history have gone so far as to predict that, with our highly refined foods, the men of the future will ultimately be toothless. However, with our growing knowledge of nutrition and more general observance of dental prophylaxis, this tendency will be overcome and the teeth will be preserved for future generations.

"For Every Child a Tooth." Another superstition connected with the teeth is the belief that every child necessarily means the loss of a tooth to the mother. In many cases the mother's teeth are ruined by successive child-births; but this loss can be prevented, or at least minimized, by a proper diet during pregnancy. The formation of bones in the unborn child requires an extra amount of calcium salts in the mother's diet, as well as vitamin D, which is necessary for their assimilation. If the food she eats lacks the required amount, then her teeth and bony structure are drawn on to supply the missing calcium for strong bones and teeth of the growing infant. Vitamin D and calcium salts are found in vegetables, fruits, milk, butter, cream and cod liver oil. With a well-balanced diet and proper dental care, the expectant mother can scoff at the old saying, "for every child a tooth."

Oysters and Ptomaines. As times change, sayings which once were founded in fact lose their significance and take their place among the superstitions. Among these is the belief that ptomaine poisoning follows the eating of oysters in a month which does not contain the letter "r." Timely placards in the restaurants serve to keep alive this ancient saying.

Years ago the oyster beds were often contaminated with sewage. The colon-typhoid germs in the sewage multiplied

rapidly when shipped during the hot summer months and typhoid or other intestinal epidemics sometimes resulted when the oysters were consumed. Nowadays all this is changed. The oyster beds are under strict sanitary supervision. The bivalves can be shipped in modern refrigerator cars, to reach the consumer's table in just as satisfactory a condition as in the winter months when, according to outmoded saying, they "r" in season.

Typhoid and Sewer Gas. In the old days before modern plumbing, typhoid fever was blamed not only on oysters but on sewer gas. The houses were damp and odors of decaying material came from the basement. While the causes of typhoid and other maladies were unknown, they were rightfully associated with putrefying water, milk and other foods. Now we know that bacteria infecting food, milk or water may cause the disease, or it may be carried by persons who have already suffered from it. Sewer gas may nauseate us, but it cannot give us typhoid fever.

Breath-sucking Cats. A superstition which has brought dread to the hearts of many mothers is the belief that a cat will kill a baby by sucking its breath. For centuries cases have been cited of cats seen leaving a room where infants had been suffocated. Even within the last few years newspapers have printed reports of such tragedies. These cases, however, have not been substantiated by conclusive evidence. It is much more likely that a cat, in search of a soft spot for sleeping, has suffocated a child by lying across its face. Many adults sleeping with babies have unintentionally suffocated them by overlying them during sleep. The cat has been associated with witches, ill luck and good fortune for so many thousands of years that much is now attributed to it with which the harmless creature has no connection.

Does Hair Turn White Overnight? That hair will turn white within a day from grief or sudden fear is another belief which has furnished novelists with tragic material

and neighbors with gossip. While many dermatologists believe that hair can turn gray suddenly, no cases have been scientifically authenticated in which the entire head of hair has turned white within twenty-four hours. In many instances, small patches of hair have turned gray suddenly, but the graying or whitening of long hair within a few days is inconsistent with our present knowledge of hair structure. Hair is colored by pigment in the shaft. Destruction of this pigment can take place only by cells in the blood coming to the root. Changes in bodily tissues take place too slowly to effect such a rapid transformation.

Medicines to Drive Out Demons. All of us can doubtless remember some one like the old gentleman who said of his medicine, "Well, that ought to do me a lot of good, the way it tastes and smells!" The erroneous belief that the viler the taste and odor of a remedy, the more efficacious it was, had its origin in the days when evil spirits were thought to cause disease. A sufficiently foul concoction was supposed to drive them out. Certain ingredients such as snails, vipers' tongues and horns of the unicorn were thought to possess special properties for the treatment of diseases. Examination of many curious formulae surviving from the Middle Ages would lead one to believe that the patient recovered in spite of them. In Colonial days the doctor, the apothecary or women in the home brewed herbs and various evil-smelling remedies. The addition of alcohol, with its immediate effect upon the patient, made him feel that the medicine was helping him.

The use of drugs as a means of treatment is a survival of poison lore. Drugs may be administered as antidotes or specifics for disease, and they are few in number. They may also be prescribed to combat symptoms of disease, or to stimulate sluggish bodily functions or depress overactive ones. But modern practitioners realize that medicine itself cannot cure, except in a few diseases. It can only strengthen the patient and alleviate his pain until Nature heals him.

The human body tends to heal itself, and the old "shot-gun" remedies, once thought to be "good for what ailed you," have proved valueless.

Some Still Insist on Odorous Remedies. Consequently modern medical science relies upon a combination of hygienic therapy with a moderate use of drugs, which it prescribes for *physical*, not *mental* effect. Its remedies are often made in tablets or liquids of neutral or pleasing taste. But the old superstition still clings in many minds that a bitter, evil-smelling remedy is more effective. Today many people are not satisfied with a physician's treatment which does not include a dark-brown, odoriferous liquid or a box of gaudy pills. They do not believe they are recovering unless they are periodically griped and nauseated. Even the great philosopher Carlyle once called on a sick friend, taking with him some pills which his wife had found efficacious in a recent illness, though he did not know the nature of his friend's ailment.

Kissing and Cold Sores. Another fallacy which still retains its hold on many people is the erroneous belief that kissing causes cold sores. The ordinary fever or cold sore generally appears on the lips at the junction of the skin and the mucous membrane after colds, fever or pneumonia. Its cause is now considered to be an inflammation of the Gasserian nerve ganglion, located deep in the skull, which exerts a trophic influence (that it, controls the general nutrition and health) over the skin and mucous membrane about the lips. When there is a similar irritation of the corresponding nerve ganglia in the spinal column, strips of herpetic blisters may appear on the chest or back. The contents of these blisters or of cold sores are not contagious.

The cold sore appears in many cases of pneumonia and is considered a favorable indication by some physicians. These annoying blisters will dry up and disappear with local treatment and improvement in the general condition

of health. There is as yet no scientific foundation to the belief that they are caused by kissing.

Popular superstitions regarding health and medicine could be cited *ad infinitum*. The heart is still regarded as the seat of the emotions and the blood as a real tie between related persons. Whatever the human mind has been unable to explain through natural causes, it explains by association or attributes to supernatural forces. Fortunately modern scientific methods have been able to unravel many of these mysteries. By taking away the mysterious and inexplicable, it has been able to rob disease of many of its horrors and substitute effective therapeutic measures and improved rules of hygienic living. In spite of the long struggle to overcome superstition, it may be said that it now *appears to be slowly yielding* to the gradual rise of average intelligence.

Superstition Man's Greatest Enemy. Du Bois-Reymond uttered a great truth when he closed his lecture on results of the more recent investigations of nature at the University of Berlin, with the glowing but wrathful words, "The greatest enemy of humanity is superstition and stupidity." A review of current medical superstitions makes it easily understood why in all cultural western countries the entire practice of medicine is dependent upon state approval, which can be obtained solely from an authorized board after adequate study and training.

Religious Superstitions. In the sphere of religion there are perhaps even more popular superstitions arising from the inexplicable and the mysterious which are incompatible with modern religious beliefs. Like health superstitions, they are viewed with derision by a small group of thinking people, are secretly accepted by many others, and openly and implicitly believed by millions. This is true of all races of people, whatever their religious faith may be.

Because religion is more closely connected with the emo-

tions and often has sentimental associations, people are more loath to change their religious beliefs than their opinions and beliefs on other subjects. Many adults whose minds have kept pace with progress in science, economics and government, still cling to the religious concepts of their childhood.

Instances from the Drama. In Marc Connelly's Pulitzer prize play, "The Green Pastures," the living religion of thousands of Negroes of the South is portrayed in terms of childish simplicity. The Lord takes the form of the beloved local pastor. Heaven is a glorified three-dimensional world, where the kind, fallible and exceedingly human Lord issues orders from the swivel chair in his private office. This child-like tendency to view the abstract concepts of religion in terms of human experiences is widely prevalent in persons of much higher understanding.

Citing another instance from the modern drama, we find in Eugene O'Neill's "Dynamo" an inclination to deny all religion because the narrow sphere of personal experience appears inconsistent with religious beliefs. Here is exemplified the materialistic attitude which rejects faith on principle and demands inductive evidence for the abstract concepts on which religions in general are necessarily based.

Amulets and Medals. One of the most widespread superstitions now existing in many parts of the world is the belief in the protective power of amulets, charms and medals. Thousands of years ago, small, crude wooden carvings of protecting deities were hung around the neck to ward off the demons and evil spirits of disease. All through the ages diminutive figures of gods have been thought to protect the wearer against accident or evils of any kind. In the Middle Ages medals bearing the figure of Christ, and relics of the saints, were believed to have marvelous curative and protective powers.

Today Mohammedan women of the lower classes paste

amulets on their babies' hair to drive away the "devil of illness." It is reported that amulets and mascots have been seen in great numbers in England during the last decade. Many Christian children of the Catholic faith are never without their scapular or medal, which, while primarily representing a badge of affiliation with a religious order, is believed to be especially protective against accident or danger of drowning.

Science Makes Superstition Possible. In regard to the revival of belief in the efficacy of sacred relics, David Starr Jordan has said:

The recent recrudescence of superstition, a striking accompaniment of an age of science, is in a sense dependent on science. Science has made it possible. The traditions of science are so diffused in the community at large that fools find it safe to defy them. If all men sought healing from the blessed handkerchief of the lunatic, or from contact with old bones or old clothes; if all physicians used "revealed remedies" or the remedies "Nature finds" for each disease, the insecurity of these beliefs would speedily appear.

Curative Bath Water. In certain parts of the world many thousands cling to their belief in the efficacy of objects which of themselves have no therapeutic value. The Aga Khan is by heredity the temporal and spiritual leader of millions of Moslems in India and Asia. He himself is an Oxford graduate and man of the world, living with his French wife at his villa in France. By his many followers, his bath water is held to be sacred and to possess curative properties. It is bottled and shipped from his French villa to sixty million faithful adherents in India and other parts of Asia.

Don't Do It on Friday! The unluckiness of Friday for starting any work is a superstition seriously believed by certain people in Christian countries. It is based on the tabu days of ancient barbarians, who thought that prevailing conditions at certain times were so magical that ordinary

undertakings would be unlucky or come to an unfortunate end. This belief in the incompatibility of ordinary occupations with a spiritual atmosphere of a tabu day has persisted into higher civilizations and has been carried over into the aversion to starting work on the religious fast day, Friday.

Unlucky Thirteen. Perhaps even more widespread is the avoidance of the number 13, which in the magic rites of early races had a peculiar significance of misfortune. That there are still many superstitious persons is evidenced by the fact that the thirteenth floor is omitted from some of our newest hotels and skyscrapers and that the thirteenth chair in parlor cars is hard to sell. In many of our large passenger airplanes, the figure 13 is omitted in numbering the chairs. Many people refuse to sit at a dinner table where there are thirteen guests.

Bad Luck and Broken Mirrors. Even in many enlightened communities of Europe and America people are to be found who shudder at the seven years of bad luck supposed to follow the breaking of a mirror. This superstition had a religious basis which seemed wholly reasonable at its inception. Then the shadow or reflection was regarded as part of the soul. To shatter it or the reflecting surface meant death. Through the ages this belief gradually softened to signify misfortune; and its danger still lurks in the minds of the superstitious.

Many ancient religious customs and beliefs, while based on false inference, were nevertheless the result of more or less logical reasoning of early peoples. Yet the adherence of many persons to these ideas after their falsity has been clearly shown is one of the marvels of the twentieth century!

Illness as "the Judgment of God." Using the same process of reasoning, others call illness or accidental happenings a "judgment of God." A typical instance of this kind is the case of a woman in one of our large cities who recently

boasted to her friends that there were no undesirable people living in her block. Within the next two months it so happened that a crude, noisy family of foreign birth bought the adjoining house. Immediately this woman solemnly declared that "it was a judgment of God to punish her for her boasting."

Other people apply the same faulty reasoning to illness and regard it as a "visitation from God." They do not seem to realize that ignorance or disregard of the laws of physiology and hygiene commonly causes disease.

The statement is often made that superstition is rapidly declining in the modern civilizations. This is a debatable question. The world will emerge from its superstitions regarding both the laws of health and religion only as ignorance passes away and truth is faced squarely. A more general knowledge of nature and her laws can do much to banish superstition and fears arising from faulty reasoning.

The Task of Medicine and Religion. It is a common task of medical science and religion to eradicate superstition and false reasoning from our present civilization. As Professor William Patten of Dartmouth has said:

Science and religion offer the same incentives to action and have the same purposes to accomplish; and science expresses in her more comprehensive formulas precisely what all the great religions of the past and present have tried to express in their teachings, but without that sure and intimate knowledge of Nature-action which science gives us, and which is so essential to the truthfulness and sanity of any kind of religion.

Chapter XI

THE INEXPLICABLES IN MEDICAL PRACTICE

IN SCIENCE, as in religion, there are many processes and occurrences which defy explanation. Not even the most astute natural scientist has up to the present time succeeded in *fully* explaining a single one of the most simple processes that take place in the living organism. In every instance, there always remains something which baffles all investigation and remains a mystery. We learn to know the forms, the appearances and the sequences of the various parts of a process. We even learn to know the results of an impelling force; but never yet have we learned to know the nature and source of this force.

Questions Which Baffle Science. Everyone who in any way observes or experiments in any field of natural science realizes this truth very clearly. Why, for instance, does absorption, the process by which substances pass through membranes of the body, take place to a different degree under what seem to be precisely similar conditions? The problem is as yet unsolved, the subject of controversy and research.

Why, under similar conditions, without any appreciable difference, will one and the same person produce at one time scintillating, intellectual thoughts through "inspira-

tion," and at another time evolve ideas of only the most commonplace kind?

How is it that with a precisely similar instrument, making use of the same kind and number of notes, of course with different arrangement, one composer will produce a work of transcendental beauty and another composer will create a work of anemic triviality?

Why Is "One Taken and the Other Left"? A careless substitute for a skilled bricklayer allows to fall to the sidewalk a brick which barely grazes the head of a passerby. How is it that in another similar instance it crushes the skull of a man who for one reason or another happened a moment before to have slowed or quickened his footsteps? We can attribute much of the result to chance and coincidence, but there remain factors which cannot be truly evaluated in the present state of our knowledge.

Medical practice, dealing as it does with the variable forces of the human mind and body, meets many more of these inexplicable causes and processes than other natural sciences. Why is it that a robust man may contract a severe cold following exposure to a trifling draught, whereas an abandoned infant exposed to storm and wind may not suffer the slightest ill effect?

Belief in a Guiding Force. All these incidents strictly conform to the unalterable laws of nature and the governing law of causality. But in this unexplored field of causality there is an inexplicable link in the chain of interlocking processes. Here we may seek the guidance of the pilot who directs the destiny of the world and of its inhabitants, with due respect for all the laws of nature. If things are viewed from the angle constantly forced upon us by perplexing questions, we can well understand how a natural scientist, a philosopher, or a physician may believe in the rule of some higher force without in any way violating his intellectuality or his strict scientific attitude toward the known laws of nature.

A physician with such a conception of the universe will perhaps not despair of his patient's recovery. Even when human reasoning leaves no vestige of hope, he will continue his endeavors in spite of their apparent fruitlessness. But as a true physician and conscientious man, standing upon the basis of natural sciences, he will neglect nothing that the science of medicine may command, even though the patient himself or the people about him expect help only from some supernatural power.

"Prayer Cure." The core of the problem of these relationships is "prayer cure" and all that is related to it.

Believers in prayer cure maintain that a devout appeal to a supernatural power will cause this power to intervene so as to bring about cure or alleviation, preserve health, protect from disease, and annul infirmities existing since birth. They believe that prayer cure will preserve the life of patients who, according to all standards of medical science, are destined to die. Prayer cure is an appeal to a supernatural force in active relation to our universe. We can recognize it only by the effects produced by it upon our universe. The causative force itself, being outside the confines of the universe, would be beyond recognition by our natural sciences from any angle of approach.

Incurable Cases. In the present stage of development of medical science, there are many cases which must be regarded as incurable and hopeless. In other cases, curability cannot be precisely excluded, yet all the chances are against a favorable outcome. In every physician's experience there are such patients who have recovered contrary to all estimates of medical science and whose recovery relatives and friends have attributed to prayer cure.

Any such power existing outside of our universe, and exerting an influence upon the things of our universe which might be called upon to function in response to an appeal from us, must be looked upon as supernatural. Every appeal to such power, with the idea that this appeal can or

may meet with response, must be considered as an appeal to a power that is supernatural.

Nature's "Impossibilities." From this field we necessarily exclude the belief that there exist mysterious forces of nature which in a mysterious manner are capable of influencing the human being and its organism. On account of certain similarities these perplexing natural forces have all too often been erroneously confused or thrown together with the concept of a *super-natural* power, and perhaps even occasionally with the concept of an *un-natural* one. No matter how incomprehensible these powers or how grotesque their activities, they can but be related to the known forces of nature. Their recognition, comprehension, analysis and appreciation can come only when our mentality, science and technique have emerged from the darkness of instinctive feeling into the light of scientific appreciation. In past ages this has been the case with many of nature's "impossibilities." They have seemed to us chaotic and incomprehensible until they have become consciously systematized and scientifically understood.

Psychic Suggestion. Among the mystic forces of nature belongs psychic suggestion, responsible for many inexplicables in medical practice. In spite of all study and investigation, the nature of psychic suggestion is yet most obscure and little understood.

There are several types of suggestion in the psychic field. *Allo-suggestion* is brought about by others; *auto-suggestion* by oneself. Sometimes allo-suggestion takes place with the consent and cooperation of the person influenced, sometimes without such knowledge and consent. Waking suggestion and sleeping or hypnotic suggestion are induced by spoken or written words, example, gestures or similar suggestions aided by direct bodily contact between the hypnotizer and his subject, by stroking the face with the hands or by visual fixation of crystal lenses. Hypnotic suggestion is extremely dangerous when used by inexperienced

or unscrupulous persons. There are also near-suggestion and distant-suggestion, the existence of which is denied by most observers. Finally there are pure psychic-suggestion and suggestion by any sensorily appreciable act. Pure psychic suggestion and distant suggestion are closely related to each other.

Until recently the existence of pure psychic suggestion has been denied by most serious-minded natural scientists, in spite of the fact that many examples of such suggestion, apparently carefully observed and controlled, have been described and could be explained in no other way except by attributing them to a remarkable play of chance. The possibility of suggestion from a distance through letters or other means of communication is of course beyond dispute. Whether one of two persons occupying the same room can psychically influence the other without recourse to a definite physical act is a question which may admit discussion. But that any person can by purely psychic means so act upon another person who at the time is spatially distant has until recent years been regarded as a nursery fable. The invention of wireless telegraphy and investigations of radioactivity, however, have done much to render our judgment of this matter less secure.

Is Psychic Suggestion Possible? The production of a thought or emotion in the human brain, brought about purposely or unintentionally, consciously or unconsciously, may in every case be construed physically as a manifestation of force. Like the propagation of light and sound, this force projects itself externally and produces a corresponding effect upon the brain of another which acts as a receptor specially adapted or qualified for such reception. Would it not be possible for such transmission to be effective without artificial antennae or specially constructed apparatus? After all, this may not be quite so eccentric as it first appears if we assume that the entire mass of obscure psychic processes that recently have been specially classed under

the name of para-psychology may in the future have a bearing in some as yet unimagined way upon practical medicine, analogous to the influence which our studies have shown is exercised by suggestion. While the physician should know of this or similar studies, it is of course clear that in the treatment of his patients he should employ no means or methods that cannot stand the test of scientific criticism.

Animal Magnetism. Another inexplicable familiar to all and occasionally met by the physician in his practice is so-called animal magnetism. This property, possessed by especially endowed persons, enables them to influence both human beings and animals by certain physical manifestations, so that a beneficial therapeutic effect will be produced.

Like suggestion, animal magnetism originally encountered more than mere skepticism from natural scientists and medical men. All scientists of established repute held themselves righteously aloof from investigations in this field and with deprecating gesture brushed the entire question aside as though it had never existed. Yet it cannot be denied that persons with a "healing hand," as it is popularly designated, do time and again make their appearance, even though the nature and reason of their empiric power is as obscure today as it has ever been.

Influence of Colors, Light and Sound. Another mysterious force is the influence of certain colors, certain activities of light, certain tonalities of sound upon some sensitive or nervous individuals. It cannot be denied that under certain conditions one or another of these modalities may have a sedative or a stimulating influence. Even normal, healthy persons note such influence upon themselves; and we constantly observe such influence upon animals of the higher orders.

Lunar Influences. The moon is another disputed example of the influences of the forces of nature upon the human

organism. In ancient times it was supposed that sleeping in the moonlight was dangerous; yet in more modern times all beliefs in the action of the moon upon human beings have been classed as superstitious and without scientific basis. However, recent experiments on the influence of artificially polarized light upon the growth of bacteria would tend to corroborate some of the earlier beliefs, as moonlight contains 10 per cent of such special radiation.

From time immemorial it has been a recognized fact that the moon exerts an influence upon the movement of the earth's surface waters, producing the ebb and flow of the tides. Only recently has the correctness of this fact been questioned. Mariners and many other people believe in the influence of the phases of the moon upon the state of the weather; so it is generally assumed that a change in the weather occurring at full moon will persist for one week at least. In spite of the firmness of this belief, careful study will show it has so many exceptions as to be of very little value.

Does the Moon Influence Health? This same popular belief encouraged the assumption formerly accepted by physicists and physicians, that the moon exerts an influence upon the fluids of the human organism similar to that which it wields upon the tides. This influence was thought to be evident in its action upon the menstrual period of women, upon the feelings and emotions, especially of persons suffering from nervous and mental disorders such as epilepsy, somnambulism, periodical dipsomania, etc. For thousands of years the full moon has been supposed to cause somnambulism. The insane in general were put upon a similar plane, and being moon stricken were called "lunatics."

Scientific investigation has shown that all disorder or abnormality in the movement of the body fluid (circulation) directly affects the vital processes in all of the body's organisms. Its influence upon the brain is almost immediately

evident. There can be no doubt that a relatively bloodless or anemic state in the brain may be the cause of a depression—under certain conditions, of a melancholia. The slightest alteration in the pressure of the body fluid in any part of any organ exerts an influence upon the function of that organ and according to its intensity may cause a corresponding sensation of satisfaction or distress. Consequently, if the moon has even the most subtle bearing upon the circulation of the body fluids, then the possibility of its influence upon health would have to be admitted and its consideration from a therapeutic point of view would be justified.

As a matter of fact, some physicians of acknowledged scientific training regulate the administration of medications in certain disorders, such as anemic states, especially in women, in accordance with the phases of the moon. On the other hand, very many other physicians with similar scientific training consider pure superstition the belief that such a comparatively small and distant body as the moon could exert any effective influence upon so remote and minute an object as the fluid contents of the human body.

Sun Spots, Health and Disease. The influence of the sun upon human health is another much debated question of modern medicine. The beneficent effect of the sun's light and heat in hygiene and medicine has been so evident that from earliest times people have represented it as the maintainer of life and source of human energy. In recent years physical therapy is finding more and more opportunities to employ the rays of the sun. Many questions have arisen regarding the relations of the sun and of sun spots to human health.

About fifty years ago sun spots were much in evidence in both popular and scientific writings. The spread of epidemic disease was directly attributed to them. These notions were justifiably discarded, for there was no proof that human troubles were greatest when sun spots were most

numerous. The cycle of greatest number of sun spots cannot be predicted; neither can that of human troubles.

Medical Science Investigates Sun Spots. On the other hand, we cannot disregard the investigations made by the French scientist, Dr. Faure. In a lecture before the Academy of Medical Sciences in Paris, he announced that his statistics demonstrate that on the days of numerous sun spots, the number of sudden deaths is materially greater than upon days without sun spots. He assumes that the occurrence of large sun spots tends to disturb the balance between the organs of the body and thus bring about sudden death, particularly of those afflicted with some chronic disease.

It is credible that strong ultraviolet rays preponderate at times of greatest sun spots. Newer investigations seem to show that ultraviolet rays readily produce sunburn, probably have a curative influence upon rickets and so are certainly not without action upon the human body.

Fantastic as some of these things may appear, it is certain that the earth's inhabitants are subject to extra-terrestrial influences which they cannot escape.

Astrology and Disease. Whatever influence the remainder of the astral bodies may have upon the human organism is really a question that belongs entirely to the field of occultism. Whatever may have been the supposition in ancient and more modern times regarding the influence and bearing of the course and position of the stars upon the fate of mankind, it is a curious fact that even among serious-minded and scientifically trained persons, astrology is apparently finding more and more adherents. It is particularly curious that these people advocate the use of the horoscope not only to diagnose disease but also to determine predisposition to it.

Recurrent Remedies. Not every error of judgment in medical practice or popular medical belief, even if obvious, can without further investigation be considered senseless and superstitious. Again and again we have seen certain

medicaments or methods of treatment which we have incredulously scorned in the course of time not only prove effective but also in the light of progress and newer discoveries obtain a recognized scientific basis. For instance, certain substances which careful observers have declared possess no nutritive qualities whatever have been found by subsequent investigators to be highly and generally nutritious.

Both superstitions and the inexplicable in medicine can be correctly comprehended and evaluated only when historically and ethnologically detached from their existing surroundings. The road to knowledge will always lead through a maze of errors and lapses into views held previously and now discarded, yet perhaps not impossible at some future time.

The Balance between Progress and Conservatism. Medical science, like every other science, is in a constant state of progress. Perhaps more than any other, it demands that it be practically applied. But medical science, unlike some other sciences, deals with human life, with human well-being. For this very reason it must be conservative; errors cannot be rectified so easily as with other sciences. Heroic experimenters have made great progress for the benefit of the whole. Many research workers and physicians have sacrificed their lives in the struggle for mastery of disease.

While there is much which remains undiscovered and unexplained in the practical application of medicine, it is the duty of the individual physician to conduct his practice on a scientific basis. He must evaluate medical discoveries and discard or apply them in a truly scientific manner. He may and should deviate from the trodden path when he sees a better road; but because he is dealing with human life, he may do nothing that would be in the nature of an *experiment*. He may not employ the patient as the object of any test as such; he may and should progress, but only upon a secure foundation.

PART III

VITAL PROBLEMS CONFRONTING THE
PHYSICIAN AND THE CLERGYMAN

Chapter XII

CONTRACEPTION AND ARTIFICIAL ABORTION

Are they ever justified—from an economic, moral or health viewpoint?

AS FAR back as the history of the human race can be followed, civilization and matrimonial fertility have occupied an inverted relationship to each other. With increasing culture the number of births declines and with decreasing culture it augments. At present, in conformity with the greater generalization of culture, the birth rate has dropped to a point lower than in any previous time in history.

Why the Present Low Birth Rate? The connection between higher mental culture and lower fecundity would be difficult to understand, if natural causes alone were at play. The people of today are fully as capable of procreation as those of former times. Their utility in this regard has not been restricted by greater frequency of malformations and diseases of the sexual organs, psychic impotence and sexual perversions. Prenatal care is more efficient today than in former times and the number of miscar-

riages due to lack of proper care is no greater than before.

The present low birth rate depends very little on those natural factors which have always played a part in reducing conjugal fecundity. On the contrary, it must be ascribed to those artificial causes which, though known to the ancients, were certainly not practiced in previous centuries to the extent that they are today. In fact, the present infrequency of births is one of our most interesting and serious sociologic problems.

Is Birth Control Ever Justified? Is intentional limitation of the number of children ever justified, either by purposeful prevention of conception or by artificial interruption of pregnancy? The answer will differ according to whether we appeal to the intellect or to sentiment; to the state or to the individual.

No Danger of Over-population. The Malthusian theory of over-population, propounded a century ago, has often been used as an argument in favor of the limitation of families. This theory, that the human race would tend to increase in geometric progression, while food production would augment only in arithmetical series, has long since been disproved by Oppenheimer, who showed that human society is a true organism, with definite limitations of growth. Moreover, with present increased food production, the utilization of the by-products of agriculture, the synthetic foods which modern chemistry is evolving, and the still untouched natural resources, the danger of over-population is a figment of the mind. Even in densely populated countries or cities where the support of life is extremely difficult, the problem could be solved by emigration to sparsely settled countries or communities.

State Hostile to Birth Limitation. The state, in fact, has been more concerned with infrequency of births than with over-population. Its traditional viewpoint has long been that lowering the birth rate is prejudicial to its

interests; that the stability of the home would be imperilled, the number of its citizens reduced to a dangerously low point. Pursuant to this viewpoint it has always been decidedly hostile to limiting the number of births, either by prevention of conception or by artificial abortion.

But the state cannot hinder the prevention of conception, because this measure lies beyond every means of control. The state considers it a duty, however, to prevent artificial abortion except under certain definitely limited conditions. Every such abortion means jeopardizing the mother's life and destroying the child's, for it is to be looked upon as a living being from the moment of its conception. Therefore the physician is bound by specific legal enactments, which in the main permit such interruption of pregnancy only when its continuance and completion endanger the health and life of the mother. In all other instances, abortion is subject to punishment and its performance by unauthorized persons entirely prohibited.

If the physician is a man without conscience or a sense of responsibility, he will not always adhere strictly to the law against artificial abortion. Occasionally, when he need not fear exposure, such unprincipled individual may bring about a criminal miscarriage. Then he will very likely give first consideration to the wishes of the individual; and, as a shrewd business man, he will pay but little attention to the underlying motives.

Personal Motives of Primary Importance. In the matter of limitation of families, the viewpoint and motives of the individual have often differed from those of the state. Yet it is precisely the viewpoint and motives of the individual which should be given first consideration. In my opinion, these motives alone are able to furnish us with the key to the solution of the problem.

Rationally all persons should have the right to deter-

mine whether they should have children or not, and so to limit their number that it may be possible to rear and train them properly. This personal freedom should be denied only when it becomes a menace to the common welfare.

Voluntary Sterility Sometimes a Duty. The practice of voluntary sterility may emanate from economic, health, moral or selfish motives and should be judged accordingly. For this reason the admissibility of voluntary sterility cannot be answered by a direct "yes" or "no." In accordance with the motive, this step will in one case be a reprehensible act even when sanctioned by civil laws. In others, it may be not only justifiable but actually an unavoidable duty. It may well be, therefore, that not he who *practices* voluntary sterility but he who does *not* practice it will be guilty of unscrupulousness in his actions.

Undoubtedly more people practice voluntary sterility because of economic limitations than for any other reason. They contend that the increasing difficulties of the struggle for existence make its exercise necessary. While it is always admitted that the widespread practice of voluntary sterility enfeebles the state and the race, individuals maintain that since they cannot sufficiently improve their financial status they should not be asked to bear the burden and worry of a numerous family simply for the sake of the common good.

The Spectre of Want. Economic distress has always existed and will probably always exist. Of course, I do not refer to that constant striving to improve the standard of living and to share the luxuries of modern civilization that is found among most classes. For this striving, be it ever so justifiable in itself, becomes a fault just so soon as an ample income no longer suffices to satisfy the desire for all kinds of luxuries and when such self-imposed need causes people to consider it irksome to assume the worry due to numerous children. I have in mind that unde-

served want that may overtake the laboring classes even under favorable conditions of work. There is also that want to which members of every class are exposed and which even with the utmost exertion cannot be overcome. Supporting a numerous household under unfavorable financial circumstances, particularly in times of unsettled business conditions, is a constant strain upon both parents. The want and worry involved in attempting to rear and train a number of children without adequate means are unending.

Where the father is barely able to earn the daily bread, where the mother consumes all her strength in incessant work and exhausting childbirths, the family will at once be plunged into deepest misery when sickness comes or loss of work occurs.

Hegar, the great gynecologist, who was most conversant with such conditions, expresses himself concerning them as follows:

Many Children the Workman's Downfall.

In the working classes, especially among factory employees, the affliction caused by the uncontrolled gratification of the sexual instinct is enormous. The down-fall of such families can be accurately followed. So long as there are no more than two or three children, everything goes well. The wife adds to the earnings of the husband by work of her own. The children are well nourished and clean. But once that number is exceeded, a change almost always sets in. The mother is hardly able to attend to her household, let alone earn anything outside; the children run about neglected; the husband, whose worries overwhelm him, loses all courage and wanders into the rum shop.

Alcoholism in a workman with many children, as Hegar further says, becomes the more comprehensible when we consider that a home which, after the strain of the day's work, furnishes the man with neither comfort, rest nor relaxation, must necessarily become wearisome. It is also not surprising that fear of such distress and want,

which becomes greater with every new addition to the family, deters from marriage many young people who otherwise would like to establish their own homes and drives them to extra-marital cohabitation, concubinage and professional prostitution, with all their attendant and unavoidable moral and physical dangers.

Few Good Citizens Better than Many Degenerates. The connection that exists between the family with too many children and poverty, alcoholism and prostitution, with their entire train of misery, deprivation, and bodily, mental and moral degeneracy, is so obvious that it can hardly escape the notice of any careful observer. Under such circumstances the purposeful limitation of the family, both from the state and personal viewpoint, would appear to be not only advisable but a moral duty. Better few good citizens than many degenerate ones, physically, mentally and morally.

Death Rate Double in Large Families. Closely connected with economic reasons for the limitation of children are those arising from a health standpoint. Several parturitions following in close succession are detrimental to the health of enfeebled mothers in proportion to the care and attention of which these mothers are in need. Statistics show that proportionately twice as many children die in large families as in small. This would indicate that too frequent reproduction not only weakens the mother but the child and its resistance to disease. Large families among the poor, through lack of proper food and crowded living quarters, have a much greater tendency to disease. Under conditions of economic stress, where the parents are also unable to provide the necessary education and moral training, these physically undeveloped children often develop into youthful criminals, prostitutes and drug addicts.

In other unfortunate families, these children, being physically, mentally and morally unfit, succumb to the

struggle for existence. In accordance with the laws of selection and the survival of the fittest, nature exterminates them without mercy; or a "merciful civilization" immures them in the poorhouse, condemns them to prison or confines them in insane asylums. Nature is ruthless; it produces countless living beings for which it does not provide and which must perish if left to themselves.

The Handicap of Inherited Disease. Then there are those parents who, although perhaps not living in poverty, are affected with tuberculosis or some other chronic wasting disease, with syphilis, insanity or epilepsy. Even if the disease or abnormality has not been transmitted, it will at least produce in the children procreated during the unhealthy state of the parents a physical or psychical disposition to disease. Of itself, this is an insurmountable obstacle and subjects the children to unendurable hardships in their struggle for existence.

Children of Diseased Parents Fill Our Asylums. Every serious thinker will agree that it is not to the interest of the state that syphilitics, consumptives, epileptics and confirmed alcoholics should produce children, so many of whom are found in all our asylums. Wholly aside from their own misery, they are becoming an increasing expense to the government.

It is certain that whenever parents foresee that children will almost surely be doomed to a life of unfitness, disability and indigence, the practice of voluntary sterility is not only admissible but obligatory. In fact, it represents an elevation of moral standards, inasmuch as the sacrifice made for the upbringing of such children will be wasted. It benefits neither the parents and children, nor the community in which they live.

Indeed, we must maintain that our function of serving, through propagational impulse, as the means for the maintenance of the human race finds its limitations at the point where a higher moral obligation demands that we should

not be the means of bringing desolation upon our own flesh and blood.

Spacing Children Advisable. Another phase of the practice of voluntary sterility is the spacing of children. This is advantageous both to the mother and her children. She is not worn out by quickly succeeding parturitions and consequently is able to bear a stronger, healthier child and to rear her other children properly.

FROM THE RELIGIOUS VIEWPOINT

That clergymen and religion are emphatically opposed to purposeful limitation of families is a widespread public impression. Perhaps this is due to the fact that biblical and religious views for so many centuries have been distinctly hostile to both contraception and artificial abortion.

The Patriarchal Idea. The biblical view that children are a blessing of God was first promulgated under economic conditions and modes of living very different from those of the present. In patriarchal times the well-being of the family depended upon the number of its flock of animals. As very small children could look after young animals, the children desired (that is, the number that would constitute an asset and not a liability) would be unlimited. Under such circumstances, numerous children represented "an heritage and a gift that cometh of the Lord." Representing a valuable economic asset, they were guarded like every paying form of property. Today in sparsely populated and pastoral lands the same condition persists.

In earlier days the same condition existed on the farms in this country. Growing children helped with the "chores" and became of great assistance to their fathers in the cultivation of the land. Large families were welcomed; and, as food and shelter were easily provided, the present economic stress and strain were infrequent.

Children as a Blessing of God. From economic conditions and modes of living in these ancient times grew this belief that children are sent as a divine blessing, which may not be marred through the prevention of conception, still less by artificial abortion. Eventually it crystallized into the teaching that any and every measure directed toward the prevention of conception must be considered a violation of the command of God.

With the change in economic conditions—the crowding of people in cities and the rising cost of living—economic stress has in many cases made a large family of children a distinct liability not only to the parents but to the state as well.

Clergymen Recognize Changed Conditions. Recognizing the decided change in economic conditions, Reverend Leonard Hodgson, of Magdalen College, Cambridge, England, says:

Are there not at the present time elements of novelty in our circumstances which necessitate a reconsideration of the question of birth control? Birth control of some sort is not merely permissible; it is often a positive duty.

“Family Restriction Not Perverted” Sexuality. The Very Reverend Vincent McNabb, eminent Roman Catholic clergyman, urges us to face present social conditions when considering this vital question:

The movement for family restriction, as such, is not a perverted sexuality. To say that it is a perverted sexuality is to disqualify the speaker as an accurate social observer. Indeed, parents of normal instincts are found to look upon family limitation not so much as a necessity for themselves as an act of charity and even of justice towards their children. Parents threatened with eviction at the birth of another child are not, manifestly, of perverted sexuality. Parents who find it impossible to house a family of eight or ten in two or three rooms, are not to be dealt with merely by strident references to the doom of Onan.

Many other clergymen have made a serious study of this problem of family limitation. Observing the tragic results of unlimited fecundity, in unhappiness and in physical, mental and moral degeneracy, prominent churchmen have joined the medical profession in expressing views similar to those set forth in the first part of this chapter.

Underlying all their expressions is the opinion that individual circumstances must be the deciding factor, that under certain conditions voluntary sterility is not only right but is also a moral obligation.

Church Support of Birth Control. Realizing the importance of health and home to the State, Dr. Charles F. Potter, pastor of the Universalist Church of the Divine Paternity, New York City, urges that "the church should support these measures because birth control will mean, in short, happier homes, healthier children, better men and women, a stronger nation, and a nobler race."

Another appeal for birth control as a means of bettering the race is made by Dr. A. R. Petty, of Grace Baptist Temple, Philadelphia. "For myself I do not believe that birth control is immoral," says Dr. Petty. "I think it is not only moral but something to be greatly desired as a method of sane and sensible control for society."

Life of Child Sacred. Many of the earliest and highest moral concepts known to man were fostered by the ancient Hebrews. They are the basis of three of the world's living religions. It is of especial interest, therefore, to hear the opinion of an outstanding leader of modern Judaism, Dr. Stephen S. Wise. This noted author and lecturer says:

I rest my case as a Jew and as a Jewish teacher in giving my support to birth control, the doctrine and practice alike, upon my faith as a Jew and a Jewish teacher that the life of the child is a sacred thing and that we ought to hold life so sacred as to be unwilling to have life come into the world

unless we can surround it with those circumstances and conditions that make a full, complete, holy life possible.

Many parents, regarding rearing of children as a serious responsibility which requires their best efforts, have used contraceptive methods to space their children, so that the mother may bring strong, healthy little ones into the world and may have sufficient time and energy to train them properly.

Birth Control a Chapter in Spiritual Evolution.

The rearing of healthier, well-trained children who will become citizens of high moral and spiritual worth in the community is naturally of paramount concern to religious leaders. The importance of the individual in the elevation of moral and spiritual standards is stressed by the Reverend John Haynes Holmes, Pastor of the Community Church in New York City.

To control his destiny, to guide his life to highest issues and accomplishments—this is the task of man if he be an immortal soul. And this means, among other things, to bring children into the world when they are wanted, when conditions are most favorable for their reception, and only in such numbers as may not hazard the perfect flowering of each separate individual life. Birth control or voluntary parenthood, rightly understood, is only one more chapter in the history of man's emancipation as a spiritual being, by which we mean his dedication to spiritual uses.

Many proponents of the belief that children are sent as a divine blessing, which may not be marred through the prevention of conception or the interruption of gestation, do not follow their argument to its logical conclusion. If they did, they would have to say that even abstinence from cohabitation, when associated with the idea of escaping this divine blessing, is not permissible. This conflict with conscience becomes still more pronounced when the necessary generalization is made that cohabitation should serve no other purpose than that of

impregnation; in other words, that once impregnation has occurred all cohabitation must cease until such time as the capacity for reimpregnation has been established.

Unwanted Children Dishonor Marriage. An opinion on this phase of the question is expressed by the Bishop of Birmingham, the Right Reverend Henry Russell Wakefield:

It is contended by objectors to birth control that the object of marriage being the production of children, preventive measures are necessarily wrong. The reply might be that procreation of children is not the only object of matrimony, and there is surely a dishonoring of that very object in having children born when not wished for by both parents.

In the practice of their profession, medical men have seen more of the misery attendant on unlimited fecundity than anyone else. This is undoubtedly one of the reasons why they were the first believers in the judicial use of contraceptive methods. Pastors, priests and rabbis have also been very close to the people and concerned in their problems. Eminent religious leaders, studying social conditions and earnestly desiring the economic and spiritual betterment of the individual, the family and the state, have come to the defense of these medical pioneers.

A Defense of Scientific Birth Control. Dr. Harry Emerson Fosdick, of New York City, is of the opinion that unlimited propagation, under present economic conditions, will result in starvation, unemployment, physical and moral decay. He adds, "The facts are clear that we should take the shackles off the physicians and let them tell the nation that there is no hope for the solution of the population problem except in the scientific control of the birth rate."

Class discrimination in giving contraceptive information to the wealthy and refusing it to the poor is condemned by the Very Reverend W. R. Inge, Dean of St. Paul's Cathedral, London:

Withholding Knowledge Increases Crime.

The immediate question is whether the State has a right to put obstacles in the way of the poor when they desire to obtain knowledge which is notoriously in the possession of the upper and middle classes. . . . There is abundant evidence that working class mothers suffer severely from their too-frequent child-bearing, and would gladly escape it. Unhappily they frequently escape it in a way which is condemned by all moralists alike. . . . The terrible prevalence of the crime of abortion in all the large towns is demonstrated by abundant facts and figures, and confirmed by numerous personal confessions. The effect of withholding knowledge is simply to increase crime.

Apart from this, in a democratic society where every adult is considered capable of helping to govern the country, it is inconsistent to keep the wage-earner in ignorance of things that he wishes to know. We may expect that in many cases he will think it is wrong to use his knowledge, as many people in the upper and middle classes think it is wrong to do so. Conscience is not a monopoly of the well-to-do. The working man and his wife have a right to judge for themselves, like other people.

Such and similar considerations undoubtedly have led the Fifty-first General Convention of the Protestant Episcopal Church of the United States, held in Atlantic City in October, 1934, to pass the following resolution:

We endorse the efforts now being made to secure for licensed physicians, hospitals and medical clinics, freedom to convey such information as is in accord with the highest principles of eugenics, and a more wholesome family life, wherein parenthood may be undertaken with due respect for the health of mothers and the welfare of their children.

HOW THE PHYSICIAN AND CLERGYMAN CAN COOPERATE IN SOLVING THIS VITAL PROBLEM

In this vital question of controlling the size of families, the physician is confronted with a two-fold task, a task in which the clergyman can materially assist him with advice and counsel to the families in question.

Quickening the Selfish Conscience. On the other hand, they must quicken the conscience of people who through selfishness would neglect their obligation to the world. Bertillon has shown, by a classification of children in Paris, that the very poor have the largest number and the very rich the smallest number of children. The order of the size of the family is invariably the reverse of the order of the economic condition. It is precisely among the classes of people who are economically better situated that the decline of births is most marked. On the contrary, the step-children of fortune, those who must struggle hardest for their daily bread, show a relatively slight disposition toward voluntary sterility or are entirely ignorant of contraceptive methods.

Urging the Moral Duty of Contraception. In such cases the physician and the clergyman must endeavor to overcome the conscientious scruples of parents who, in spite of sickness and need, will not seek escape from further distress through voluntary sterility. They must teach them it is a moral obligation not to bring into existence children who are manifestly doomed to a life of misery. Particularly in association with patients who are strongly religious or over-conscientious, the physician's advice may be effectively reinforced by the clergyman: that voluntary sterility not only is demanded by reason and experience as a protective measure against pronounced misfortune but also is not in any way opposed to religious sentiment.

When moral scruples against voluntary sterility persist (and this will often be the case where artificial intervention is required) it is better to cease further reasoning in order to avoid an affront to the patient's conscience. Under all circumstances, however, the advice given by a physician for such measures should be a purely personal and privileged communication adapted to the individual case under consideration.

Children a Duty of the Prosperous, Healthy Marriage.

On the other hand, there are those parents who always use economic limitations (in reality often love of ease and luxury) as a screen behind which purely egoistic motives may be hidden. Where health and prosperity exist, artificial restriction of fecundity can be dictated only by sensuality, a love of comfort, a lack of spirit of self-sacrifice, and a disregard of the duties owing to state and society. Under each of these circumstances, any attempt to justify voluntary sterility is vain and sophistical.

Both professions should energetically oppose, by education and counsel, the purposeful restriction of fecundity when it serves merely as a cloak for licentiousness. This easy method of avoiding one's direct obligation toward society would be a pronounced menace to the race if universally adopted.

The physician and the clergyman must also unite in inspiring healthy and prosperous people not to deprive themselves frivolously and thoughtlessly of a family of children, without which the happiness of every well-regulated, healthy home will always remain incomplete.

Chapter XIII

RECENT ADVANCES IN BIRTH CONTROL

THE birth control issue has become a subject of such increasing importance within recent years that a brief discussion of the newer methods employed should be of interest. The issue has always confronted our country with grave problems, but at present there is probably no subject fraught with more serious possible consequences than that of contraception.

Birth control has been a subject of discussion for many years. The varying viewpoints of biologists, physicians, churchmen, philosophers, economists, statisticians and society in general have been advanced, but the issue still remains a problem.

Birth Control Essentially Part of Progress of Civilization. That birth control is here for all time, that it is essentially a part of the growth and progress of civilization, is a foregone conclusion. Whether for or against it, one must admit that its practice is increasing by leaps and bounds throughout the entire civilized world, and it has become a factor which must be recognized.

Of the birth control movement Novak writes: "Whether right or wrong, . . . [it] has moved forward from the shadows of guarded discussion into the limelight of medical, social and even religious publicity."

Economic Depression and Birth Control. The economic depression of the past years has in all probability played no small rôle in the increasing practice of birth control. The problem of feeding, clothing and educating a large family has become more and more difficult and has led to eager acceptance of any means that the mind of man can devise whereby conception may be prevented.

Progress Attained by Birth Control. The changing conditions in the world today, as well as the acute relief problems confronting our country as a result of the depression, have tended to focus attention on the increasing practice and need of birth control. Because of the present situation even those who have opposed the movement most strenuously have been forced to shift their position somewhat.

That birth control has been elevated to an accepted and recognized place in our medical, religious and social system is hardly the case. However, several mileposts have been passed during the last few years.

Attitude of Protestant Churches. All of the Protestant churches in the United States, except the Lutheran, have issued proclamations supporting birth control. The Federal Council of Churches set forth their views on the matter as follows:

The uncompromising position taken against preventing conception, under any and all circumstances, except by abstinence, is manifestly an extreme one, and even dangerous. Certainly there are circumstances of health and disease, recognized everywhere by physicians, which, when abstinence is not to be relied upon, make the use of contraceptives wise. The arguments from nature and inferences from authoritarian doctrinal positions, upon which the encyclical so largely relies, are labored and inconclusive. . . . Catholics themselves in increasing numbers will not submit themselves in "filial and humble obedience toward the Church" in all these matters. Half of the patients in the Los Angeles birth-control clinics are Catholics, and the people of no country in the world regulate birth so effectively as the French.

ARTIFICIAL METHODS OF CONTRACEPTION

The most widely practiced method for preventing conception has been by the use of some artificial contraceptive device, countless varieties of which are to be found on the American market. Some of these have proved effective; many have not. The better contraceptive methods advocated by birth control clinics have had positive value, but the results obtained by the clinics have not been wholly satisfactory. This is due primarily to the fact that the ideal artificial contraceptive has not been discovered. At present there is no artificial method, either of a chemical or mechanical nature, that is 100 per cent perfect.

Failure is not always due to the type of device or method used but often to carelessness or ignorance on the part of the individual. The instructions given by all clinics call for some degree of intelligence and care, without which failure will be the inevitable result.

Danger Due to Improper Methods. Because it has not usually been possible to secure advice from the medical profession as to the relative merits of contraceptives, many women have used harmful chemicals or too powerful antiseptic solutions in the hope that they would prevent conception. However, in many instances, these methods have resulted in misery and disease, as well as frustration of the desired end.

Situation Existing with Reference to Contraceptives. The situation now prevailing in this country with reference to artificial contraceptives is rather appalling. The contraceptive business is tremendous despite the various prohibitive federal and state laws. It would seem that some action should be taken to remove the control of such devices and methods from the commercial field and place it in the hands of physicians where it rightfully belongs.

Difficulties of Artificial Methods. Until recently it has been the general belief that limitation of the family must

be accomplished by employing artificial methods. These have presented difficulties as they fail to meet psychologic, esthetic and economic considerations.

Intelligence Necessary in Use of Contraceptives. Those for whom birth control is most generally advised and needed are inclined to be lazy or careless in following instructions. In fact, many of these people do not possess the type of intelligence necessary for the proper application of the various mechanical and chemical devices that are in vogue today.

BIOLOGICAL CONTROL IN PREVENTING CONCEPTION

For a number of years medical men have been giving consideration to a method of preventing conception by biological control. This would be entirely independent of the individual treated and would be effective for a reasonable length of time. Various experiments have been made in attempts to immunize female animals against conception by injections of certain extracts of the male sperm and the female sex hormone. An abstract entitled "Effects of Female Sex Hormones on Conception and Pregnancy" states: "Small doses of female sex hormone injected into female guinea-pigs immediately after copulation for a period of several days will prevent conception in all cases in which an adequate dosage is used."

Antithetic Action between Female Sex Hormone and Corpus Luteum Hormone. That there probably is some antithetic action between the female sex hormone and the corpus luteum hormone would seem to be indicated by various experiments by gynecologists made on white mice, rats and guinea-pigs.

The chances for success in preventing conception by parenteral introduction of the living and killed seminal fluid and the female sex hormone seem quite hopeful. However, many more experimental tests must be carried

out before gynecologists will be willing to judge the method on its merits.

MOST RECENT METHOD FOR BIRTH CONTROL

The most recent method for birth control, and one which bids fair to be successful, is that based on the work of two foreign gynecologists, Dr. K. Ogino of Japan and Dr. Herman Knaus of Austria. They have worked independently of one another and arrived at practically the same conclusions. Their studies have revealed a sequence of sterility and fertility in women, and the modern method of birth control which has resulted largely from their work is based on the so-called "safe period," which occurs at a definite time during the menstrual cycle of the average normal woman. At this time conception will not be likely to take place.

"Safe Period" Looked Upon as Common Folk Lore. The "safe period" has been common knowledge for many years but has been looked upon more or less as folk lore. Now, however, the studies of these two scientists have revealed a scientific basis for this long-considered-mythical "safe period."

Simplicity of Natural Method. The natural method of birth control is very simple. The fertile and sterile periods are determined in each individual case by the known facts concerning the occurrence of the menstrual cycle. No mechanical means are necessary at any time, and normal relations may obtain at all times during the safe period. During the fertile period abstinence must be practiced.

In a scientific article entitled "Two Important Biologic Factors in Fertility and Sterility," Dr. Emil Novak writes: "For those who, because of religious or other reasons, are not willing to resort to other forms of contraception, the Ogino-Knaus method is a great boon and is certainly the one that should be recommended by the physician."

Ogino-Knaus Method Accepted by Catholicism. Because of its biologic nature the natural system of birth control will not be met with opposition by the Roman Catholic Church. Catholicism is unalterably opposed and has always forbidden artificial birth control. While the church urges upon her communicants the duty of rearing large families it does not object to abstinence as a means of controlling birth. Dr. Joseph A. Tobin, President of the Catholic Physicians' Guild, recently told the members of the Guild that this modern method of birth control is "the only method that can be justified either on scientific or ethical grounds."

Attitude of Catholic Church. Dr. Thurston S. Welton in his recent book, "The Modern Method of Birth Control," states:

The attitude of the Catholic Church was summed up by His Eminence, Cardinal Bourne, Archbishop of Westminster, who said, "There is no law requiring married people to have large families, and if they wish to live in continence they are entitled to do so, but they are absolutely forbidden to exercise the act of generation *and frustrate* its natural purpose."

New Method Claiming Attention of Medical Profession. The results of the experiments of Ogino and Knaus are claiming the attention of many eminent medical scientists. An editorial entitled "Menstruation and the 'Safe Period' " states:

Thus there is being developed scientific evidence to warrant the possibility that this method for the prevention of conception or birth-control is sufficiently accurate to be dependable and at the same time psychologically, socially and esthetically sound. It calls obviously for a certain amount of civilized restraint. . . . In view of the nature of the evidence now brought forward and rather well confirmed it would seem to be desirable that large clinics especially interested in studying the prevention of conception might concentrate their efforts temporarily on a study of this method from all the different points of view that have been mentioned.

Controlling Birth at Will. Natural birth control makes it possible to control birth at will and without recourse to artificial contrivances. Even in its early stages the method has many advantages over the various artificial devices that have been in vogue so long.

Insurance of Sterility. An editorial entitled "Contraception and Birth Control" states: "Enough evidence has already been established to indicate that a strict observance of the method is insurance of sterility, even beyond that associated with the employment of most of the contraceptive apparatus and medicaments."

Exercise of Nuptial Rights. Dr. Thurston S. Welton states:

The *Modern Method* is like a two-bladed sword—it cuts both ways. It offers a time for the exercise of nuptial rights during which it is well-nigh impossible for the wife to become pregnant. On the other hand, for those desiring pregnancy, it indicates the best time to cohabit in order to attain this end.

Failures Due to Artificial and Natural Methods Compared. While the natural method of birth control does not signify absolute perfection, authentic reports show failure in only about 3 per cent of the cases on record as against a failure of from 7 to 10 per cent in cases where artificial birth control methods have been used. Further studies and additional case reports with reference to this method will doubtless be of great value and interest in dealing with the problem of birth control.

Dr. Victor C. Pedersen, who is in accord with the natural method of birth control, writes:

Birth Control a Sociological Question.

Birth control is primarily a sociological question. Parentage in all its exaltation must be respected and promoted. The rate of child-bearing must not be reduced in total numbers, but rather it must be spaced in time for the greatest good of all concerned. This common good means the benefit of the state, the family, the home, the parents and the children. All stand together; none alone.

Chapter XIV

IS EVERY SUICIDE INSANE?

SUICIDE has been regarded with varying views by medical science, law, ethics and religion. Public opinion regarding it has differed with the country and the century.

Death or Dishonor. Formerly suicide was a prison offense in some parts of this country. For a long time it was considered much more honorable than disgrace. In some cases, it was an act of cowardice; in others, an act of heroism.

Among the Japanese of high social standing, the daimyos and the military officers, *Seppuku** was considered more honorable than surrender.

In Redesdale's "Tales of Old Japan" we find a detailed report of the Ako vendetta, relating to the *forty-seven Ronins* (knights-errant) or *Gishi* (loyal servitors), whose graves at the Sangakuji, in Tokyo still receive the attention of many thousands of visitors and whose tombs are still adorned daily with incense sticks and flowers.

Gowen in his "Outline History of Japan," says:

It was on February 3, 1703, that the forty-seven swordsmen who had concealed their fell purpose for over two years by all sorts of strange devices, forced their way into the house of Yoshinaki Kiro to avenge the death of their liege Lord, Asano

* *Seppuku* is the classical term for self-execution by opening the abdomen. *Hara-kiri* is a designation which should be avoided.

Naganori, Lord of Ako. After the bloody deed the assassins were placed for a time under the charge of various daimyo until the decision of the Shogun was rendered, ordered them to commit Hara-kiri. This they did and the graves of the forty-seven, together with that of the Satsuma man who repented his misjudgment of their leader, are pathetic reminders of the tragic story. In regard to the ethics of the act, various opinions were expressed at the time, but Mr. Chamberlain says, "The enthusiastic admiration of a whole people during two centuries has been the reward of their obedience to the ethical code of their time and country."

Among the several *factors affecting the suicide rate* are loss of interest in life, nervous diseases and the rush of life, climatic conditions and religious beliefs. In every country the rate rises during the hot summer months and falls during the winter.

Loss of interest in life is undoubtedly the most powerful factor resulting in suicide. Religion, on the other hand, has had a distinct deterrent influence on countless people. Hinduism is the notable exception; it has not only sanctioned but approved suicide of widows.

Suicide on the Funeral Pyre. For centuries under the caste system of India woman was held responsible for the death of her husband. Even yet her hair is shaved, her ornaments are taken away and her garments made of the coarsest material. According to the traditions of Hinduism, the only honorable thing for her to do was to mount the funeral pyre and be burned to death with the body of her husband. *Suttee*, or self-immolation on the funeral pyre, was carried out thousands of times before it was forbidden by the British government.

Suicide Rate Rises with Education. In all parts of the world suicide is more prevalent among the educated than among the illiterate. With education and culture, man becomes more sensitive to the jarring discords and painful things of life. Too great absorption in philosophic speculation frequently leads to melancholia, despair and loss of

interest in life, which in many cases results in suicide. This is undoubtedly one reason for the high suicide rate in Germany.

With the advance of civilization and education, life becomes more complex and artificial. It becomes increasingly difficult for man to adjust himself to the complexities of his daily life and his environment. The nervous tension increases and the subjective element looms larger upon his personal horizon.

Of *lack of adjustment to environment* and its connection with suicide, Gordon writes in the *British Journal of Medical Psychology*:

. . . any person who believes in universal progress and believes himself a part of it, to him suicide will be impossible. Suicide represents a shirking of the duty of the individual as a part of the universal whole. . . . So long as things go reasonably well and there is no special friction in their lives, these people seem to be adjusting well and there may be little or nothing in their behaviour to suggest they are not likely to continue to do so; but if things do not go well, whether between themselves or their environment, then they readily turn from the reality of harmonious adjustment so that their own part as a member of the whole has no longer a meaning for them, duty to themselves and regard for others ceases to matter and they thus acquire an entirely different set of values. . . . Suicide represents a failure in the personal adjustment to the social environment, the universe and reality.

Suicide is also *a method of escape*. To the unfortunate person his difficulties appear insurmountable and he seeks a way out with the least suffering.

Roalfe, in the *Journal of Abnormal and Social Psychology*, says:

No objective problem standing alone is sufficient to cause suicide, but there is the subjective factor. Suicide is the result of man's desire to avoid the difficulties and problems of life. Suicide often happens when there is no extraneous factor involved. Beyond the shadow of a doubt the hardest thing man

ever does is to face his own soul. So difficult is this task that few accomplish it to any great extent.

RELIGIOUS FAITH AND ADJUSTMENT

Religion has been called an attempt on the part of man to face himself, to adjust himself to his fellowman and to his surroundings. How far such adjustment goes is generally a personal matter. It depends upon the degree of the individual's religious faith and application of his religious beliefs to his everyday life.

Suicide and the Religious Person. I agree with those writers on pastoral medicine who believe that in a person of firm religious faith, mental depression should not of itself be considered a source of an irresistible suicidal impulse. Such a person should not permit himself to become hopeless but should always be able, with the aid of his faith in God, in the immortality of the soul and in eternal salvation, to overcome the impulse. It is precisely this faith that distinguishes the religious person from the so-called "worldly" one. For this reason the mental depression that leads a person of strong religious convictions to commit suicide is always based upon some mental disorder that involves irresponsibility. Religious faith carries with it an inhibitory notion which is entirely lacking in atheism and agnosticism and which under all circumstances stamps self-destruction as a great sin.

Atheism and Suicide. The Japanese nation has always had a high suicide rate. It is interesting to note that there is an unusually large proportion of agnostics and atheists in this country, particularly among the more highly educated.

In a person of strong religious convictions, I believe that this faith should under normal conditions suffice to counteract the suicidal impulse even when associated with marked mental depression. Wherever the inhibitory no-

tions are unable to do this, there should be no doubt as to the pathological character of the mental state.

RELIGIOUS TEACHINGS AGAINST SUICIDE

As I have said previously, religion has been known to exert a distinctly deterrent effect upon many people in regard to suicide. This may be due, on the one hand, to the influence of religious faith and the aid which religion has given the individual in adjusting himself to his surroundings. It may be due, on the other hand, to the teachings of that religion against suicide.

Oriental Religions and Suicide. The calming influence of Confucianism, Taoism and Buddhism has left a distinct imprint upon oriental character. The follower of Confucius tries to refrain from doing anything which will bring disgrace to his ancestors or to his family. During centuries of influence, these oriental religions have produced a calm, unruffled, phlegmatic type of mind which bears misfortune with great fortitude. The placidity of the oriental is in great contrast to the nervous tension, hysteria and melancholia of his western contemporaries.

Judaism Denies Orthodox Burial Rites. One of the strictest tenets of the Hebrew religion is contained in that commandment, "Thou shalt not kill." This command includes self-destruction as well as murder, for this religion teaches that "the body is the temple of God" and as such may not be desecrated by self-destruction. So strong is the inhibitory effect of this command that there are probably less suicides among the Jewish people than among those of any other of the world's great living religions. A suicide brings disgrace upon his family. He is denied the orthodox Hebrew burial rites such as the ceremonial washing of the body and wrapping in a shroud. His body may not be buried in the family plot with his relatives but is consigned to the common public burying ground or potter's field.

The Protestant branch of Christianity frowns upon suicide, as it carries over into its religious creed the Old Testament teachings about the sacredness of the body and the sin of self-destruction. But, unlike Judaism and Catholicism, it does not inveigh against suicide in any specific tenets. Nor does it condemn the suicide and deny him the funeral and burial rites accorded those of its communicants who die a natural death. Rather does Protestantism pity the suicide as an unfortunate and sometimes reproach its adherents for failing to give aid and encouragement to the discouraged victim.

More Suicides among Protestants. Among the various sects of Protestantism there is greater freedom of thought and creed than in any other of the world's living religions. For this very reason, doubtless, their hold upon many of their adherents is less secure than that of other faiths. This may explain why there are more suicides among Protestants than among persons of other religions. In Switzerland, for example, the suicide rate is invariably much higher in the Protestant than in the Roman Catholic cantons.

The Catholic Viewpoint. Catholicism censures the suicidal act in specific terms. Its tenets maintain that God has given life and therefore man may not voluntarily throw it off. Severe blows of fate, such as the loss of fortune, discredited reputation, the death of those near and dear, disappointments of any nature, the sufferings of disease—all must be endured as tests of faith and confidence in divine providence until it pleases the Creator to send relief. This is the viewpoint of Roman Catholics and of many Protestants as well. It is the viewpoint which is of particular interest to pastoral medicine.

The laws of the Roman Church deny to suicide the funeral rites in the church which are so important to every devout Catholic. Neither may the suicide be interred in consecrated ground. Exception to these ecclesias-

tical laws is made only when the unfortunate person is adjudged to have been insane at the time of committing the suicidal act.

IS EVERY SUICIDE INSANE?

Whether suicide under all circumstances is the outcome of a diseased state of mind which precludes free determination is a very difficult question to decide. Whether or not the deceased himself was a regular communicant, this decision is usually of great importance to his family. To enable the ecclesiast to determine his course of action, the physician is frequently called upon for his expert opinion as to whether the act was committed during a state of mental confusion.

In this connection I have in mind, of course, only those instances in which the suicidal act was not preceded by any manifest symptoms of mental disorder. Under other conditions, such as those psychoses which are accompanied by delusions of sin or persecution, there can be no doubt of the irresponsibility of the suicide.

The love of life and the instinct of self-preservation are so deeply implanted in human nature that it is difficult to believe anyone could voluntarily determine to end his own life. Such determination must be brought about by potent motives, such as incurable chronic illness, overpowering trouble and worry, the fear of impending dishonor, etc.

The Battle Within. Probably no one goes to death entirely voluntarily. But I can well believe that persons who have nothing whatever to lose may lay hands upon themselves, even though they be mentally perfectly clear and rational, not because they happen to be in a hopeless position of strain but essentially because they have lost interest in life or it has become a burden to them. They could well go on carrying this burden had they a single

ray of hope to encourage them, but lacking this hope they prefer an end with horror to horror without end.

The Physician's Problem. In certain cases self-destruction may be actuated by purely noble motives. It may cause no injury to other persons and may actually result in benefit to the survivors. The personal opinion of the physician regarding the right to free oneself from a hopeless existence by voluntary self-destruction does not concern the problem we are now discussing. His task is to determine the mental state of the suicide at the time the act was committed.

Psychic Predisposition. Whenever a person of *strong* religious faith commits suicide, I believe we can only assume that solely upon the basis of a previously existing disposition to psychic disease could the mental depression develop to such a degree that the most intense religious opinions would no longer exert their influence. This psychic predisposition to disease may have existed long before the self-destruction took place, without giving any manifest evidence of its presence. A melancholic or hypochondriacal temperament, hypersensitiveness and nervous weakness, the emotional excitability so characteristic of hysteria, mental enfeeblement, the eccentricities typical of the borderland between health and disease, all these constitute a basis upon which severe emotional shocks may result in a catastrophe.

Emotionalism and the Suicidal Impulse. Take the case of J. R., a devout Catholic but emotional southern Italian. For years he had worried about his health because his doctors advised him to have an operation for gallbladder disease, but he could not make up his mind to have it done. Soon after the Wall Street crash, he lost his position and the slender finances of his large family dwindled to nothing. When his wife and two of his children all became ill at the same time, he locked himself in the bathroom and turned on the gas. But, at the last moment,

faith prevailed. With his last ounce of strength, he turned the gas off. He was found almost unconscious but recovered.

This was not a case of insanity, nor a deliberate attempt at suicide. It was the impulsive act of a Neapolitan, whose intolerable emotions impelled him to commit a sin the stark reality of which, when he was confronted with the actual situation, finally sobered his judgment and awoke his conscience.

Any severe mental stress may excite insanity when there is an existing predisposition. Usually a situation arises which the person cannot face: financial worries, sexual or domestic problems, deaths of dear friends or relatives. Sudden, terrific shocks may have the same effect and the victim takes refuge in a world of unreality. Exhaustion or fatigue may result in sudden mental breakdown and insanity.

Mental Stress May Excite Insanity. Sometimes men see the work of a lifetime suddenly swept away. They have been under terrific nervous strain. The prospect of facing the future or perhaps of *facing themselves* and admitting failure is too much for them. Sudden mental breakdown ensues. A case in point is that of an eminent Catholic layman and financier who lost several millions, nearly all of his fortune, in the memorable Wall Street debacle late in 1929. It is my opinion that a man of such strong religious convictions and ardent devotion to the interests of his church would not voluntarily disobey one of the strictest tenets of his faith.

These emotional shocks in a way represent an endurance test which the healthy person stands, but under which the sick, the weak or the one under terrific strain breaks down. His morbid weakness makes the misfortune that befalls him appear much worse than it actually is. It clouds his power of judgment and during this, perhaps sudden and only momentary disturbance of conscious-

ness, the suicidal impulse no longer encounters the inhibitory notions that prevent it from being converted into action.

Heredity and Previous Injuries. Whenever this happens the question must be asked whether instances of insanity leading to attempts at self-destruction have been present in the family of the suicide. It must also be ascertained whether the suicide had ever met with an injury to the skull or nervous system.

Religious Inhibitions Depend upon Degree of Faith. It must be remembered, however, that in Judaism, Catholicism and Protestantism there are all degrees of religious faith, from that of the person who adheres both in letter and spirit to even the most minor teachings of his religion to the one who actually has no faith and is only nominally classed with communicants of a certain religion. Naturally, the inhibitory effect of religious faith against suicide depends upon how strong that faith is and to what extent it has aided in personal adjustment to life.

Women, Religion and Suicide. Women are commonly regarded as much more religious than men. In this connection, the question may well be asked whether the inhibitory effect of religious faith is influential, for statistics show that men are much more prone to commit suicide than women. In England and several continental countries the proportion is three to one; in New Zealand it is more than four to one.

Insanity Develops during Disease. Whatever the religious viewpoint of those concerned, it is always well to remember that insanity may develop during disease. Unexpected psychoses may develop in acute and chronic infectious diseases such as rheumatism, erysipelas, pneumonia, typhoid and lues. It may also arise during pregnancy and parturition. Occurring as febrile delirium or as inanition psychoses upon a soil of physical malnutrition caused by exhausting disease, these will materially

inhibit or entirely annul the freedom of determination. Consequently the suicidal act will appear to be the product of a sudden onset of mental disorder caused by severe emotional shock. We may even go further and say that the acute mental confusion need not necessarily be connected with any actual happening, as severe states of excitement may also be caused by pure hallucinations.

The Religious Suicide Is Irresponsible. In conclusion, it seems to me highly improbable that a mental depression which leads a *strongly religious* person to suicide can be based solely upon actual causes which overshadow the influence of inhibitory religious ideas. The basis of such mental disorder is always a morbidly emotional state which either permits the real cause to exert an unduly intense influence or leads to suicide where no other cause is present. Only in exceptional instances will an autopsy cast any decisive light upon this question. As a rule distinct disorders of structure and the more gross brain defects are found only in well-developed chronic psychoses.

If, however, we may reasonably assume that only weighty motives will cause a person of clear mind to take his own life, then in the absence of such motives, a step so contrary to nature, reason and religious faith, can be thought of only under the assumption that at the moment of commission of the deed, the intellect must have been obscured.

In a predisposed organism the possibility of an acute state of mental disorder always exists. Then the question whether the *tedium vitae* be dependent upon an actual or an imaginary cause can make no difference as to the diseased mind. While these considerations may apply to all suicides, they certainly obtain all the more in persons of strong religious faith, whose suicidal tendencies cannot be inhibited even by the belief in the court of Divine judgment before which they must appear. The defiance of results, it seems to me, amply proves the irresistibility of the impulse in such cases.

Chapter XV

HOW SHALL WE SOLVE THE DIVORCE PROBLEM?

DIVORCE, unhappy marriages and shattered homes are among our major problems today. The divorce rate is increasing in nearly every civilized country.

The success of marriage has always been of especial interest to medical men and to religious leaders. Both of these professions, because of their close personal contacts, realize the vital importance of the stability of the home. For the welfare of the individual and society, they are concerned that the number of marriages shall not unduly decrease, on the one hand, or the number of divorces and separations increase, on the other.

Divorce Affects Children More than Parents. Divorce has far-reaching effects. Not only does it affect the man and woman in question, but their children to an even greater extent. Wholly aside from the unhappiness of the persons involved, a shattered home may mean additional economic strain on the husband, on relatives or on the community.

The Changing Status of Marriage. Concern regarding this problem is particularly keen in the western hemi-

sphere, where monogamy has come to be regarded as the accepted form of human mating. With changing economic and social conditions in the last century, with the weakening of religious ideas and influences in so many homes, thousands of people, of whatever nationality or religion, no longer believe in marriage as a religious sacrament and as lasting, but as a temporary legal contract which may be conveniently broken when necessity or inclination dictates.

In this country the number of marriages in proportion to the population is smaller than twenty-five years ago. The proportionate number of divorces, on the other hand, is twice as great. More than one marriage in every six ends in divorce, to say nothing of thousands of annulments.

Where Divorce Is Most Frequent. Divorce is much more frequent among native Americans than among our foreign population. It is more frequent in cities and towns than in the country. It occurs more often among members of the middle and wealthy classes, and among those of Protestant faith.

From an economic, social and health standpoint, it may be said that the medical profession approves monogamy and the permanence of the marriage contract.

Marriage and Its Influence on Health. A happy, permanent marriage certainly makes for greater stability of the home, with all its far-reaching results for the individual and the community. Undoubtedly, the physical and mental health of both husband and wife are likely to be much better than those of unhappily married couples. There is not the stress from physical and mental incompatibility; there is not likely to be so much stress from financial or other difficulties.

With more permanent, happy marriages, there would be less sex promiscuity; and venereal disease, with all its train of miseries, would decrease.

Children of the Happy Marriage. The happy home certainly has a great influence upon children, physically, mentally and morally. Children of shattered homes must often be cared for by institutions. It is an accepted fact, however, that children thrive much better in the home than in an institution, even granting that food and surroundings are similar. In fact, the love, the personal care and attention of the parents often overbalance poorer food and less healthful living conditions. Most children of the permanently happy marriage are healthier, receive a better education, better social and moral training than those whose homes have been shattered by divorce. For these reasons the stability of the home where there are children is of much greater importance than in the case of childless couples.

What Shall the Obviously Mismatched Do? Because of the desirability of permanent and happy marriage, we should consider seriously the problems of those increasingly numerous unhappy marriages. When a man and woman are obviously mismatched, when they are physiologically and psychologically unsuited to each other, should they be forced to spend the rest of their lives in an unhappy situation which will become increasingly difficult?

Many people consider this question merely from a moral point of view. From ignorance or misunderstanding of the problem, they do not consider the physical and mental ills suffered by some of those who are forced to maintain the intimate daily contacts of a marriage which has become so hateful to them.

The medical profession, particularly its members treating nervous and mental diseases, generally view causes of unhappiness as physiological or psychological, in their professional efforts to be of constructive assistance. Their analysis of conditions goes deeper than the average in an endeavor to find the basic, underlying causes.

Underlying Causes of Divorce. As a result of their expe-

riences, psychiatrists are convinced that the problem of divorce will never be solved until we understand more thoroughly our underlying sex natures and our different types of personality. They believe every one must realize that back of the love life are the sex instinct and the creative instinct. To deny this is to neglect the underlying causes of divorce and fail to discover the remedy.

Psychiatrists unite in agreeing that sexual incompatibility is the greatest cause of unhappy marriages. When either husband or wife charges adultery, cruelty, or other grounds in suing for divorce, what is the *real* reason? Why are they unfaithful to each other? Why are they incompatible? Why is one of them cruel to the other? These obvious reasons very often conceal the *real* reason—sexual incompatibility.

Love—the Scientific Basis of Happy Marriage. Love has been truly called the basis of happy and successful marriages. This fact is just as true from a scientific as from a romantic standpoint, for love is the expression of the fundamental reproductive instinct. From sexual compatibility grows the enduring psychic or spiritual love which binds husband and wife more closely together in spite of the many difficult situations they may have to face in married life. Enduring marital happiness is impossible without sexual compatibility.

Sexual Compatibility Vital to Marital Happiness. This may be stated as a fact without over-emphasizing the sexual side of life. When we stop to consider that the sex instinct is thoroughly a part of every person, not only of the physical but also of the mental and psychic natures, that sex instincts persist even after the removal of the organs of reproduction, it is not hard to understand why sexual compatibility is vital to marital happiness. Similarly, it is not hard to understand why so many persons become physical and mental wrecks as the result of maladjusted love lives.

Tragic Effects of Mismatching. Chronic grief, fear and

worry are often the result of marital unhappiness or sexual dissatisfaction. In turn, they produce a great variety of symptoms and are closely connected with functional changes in various internal organs, especially in the pelvic region. Pelvic congestion and disturbances of the glands of internal secretion may cause a number of painful and annoying disturbances in women.

Acute or prolonged emotional disturbance and lack of understanding may produce chemical changes in the body which result in physical disorders or lower the resistance to infectious diseases. Aggravated emotional distress may even cause hypochondria and various neuroses. Since the reproductive instinct is such a fundamental biological urge, it is not strange that heavy penalties are exacted from mismated persons.

Seeing all these tragic effects of mismating more frequently and more clearly than others, medical men may well question whether it is advisable to doom two mismated persons to a lifetime of physical and mental ill-health and distress.

How the Psychotherapist Can Help. On the other hand, many young married people whose slight physical and mental maladjustments rapidly widen into a rift ending in separation or divorce might be assisted by a trained psychotherapist. By ascertaining the cause of their emotional and mental conflict, he can prescribe the best method of treatment for removing the cause. Much assistance may be given by psychotherapists in doing away with preventable or minor maladjustments between husbands and wives.

The Wrong of Mismating. However, the solution of the present problem of increased number of divorces in this country lies not so much in the treatment of those already unhappily married as in the education and moral training of young people before marriage. Should not society em-

phasize and condemn the wrong of *mismatching* rather than the *undoing* of such a wrong?

WHAT TYPES SHOULD NOT MARRY?

One of the first steps in the solution of this problem is public recognition that certain types of people should not marry. This should not be merely a passive acceptance of the fact but an active social consciousness which will exert itself in various ways to prevent the marriage of unsuitable types.

The Physically, Mentally, Morally Ill. Already society passively agrees that certain types of people should not marry: chronic inebriates, the feeble-minded and insane, epileptics, those with venereal diseases or those with other serious inheritable physical, mental or moral defects. Not only will the husband and wife of such marriages be unhappy, but children inheriting their physical and mental illness will add to their misfortune. They will be a distinct liability to the community in which they live, a potential source of further unhappy marriages and increased divorce.

Active social consciousness regarding this problem should be aroused in all classes of people, through public education, medical advice and the legal requirement of a health certificate for marriage.

The types of persons just referred to obviously should not be permitted to marry. There are, however, other little known types found in every community and in every level of society who are just as surely doomed to unhappiness if they marry.

Those with an Emotional Fixation. Young people with an emotional fixation for a parent or older member of the family will never become happy husbands or wives. Often it is an only son or daughter who has been unable to break away from an infantile attachment. They have never matured emotionally and find it impossible to adjust themselves to actual circumstances, for this requires emotional,

mental and physical maturity. These abnormal emotional attachments, most frequently seen between mother-and-son or mother-and-daughter, are the underlying cause of many wrecked marriages. The resulting sexual incompatibility leads to the usual nervous and mental diseases, to physical ill-health and lasting unhappiness, even if there is no divorce.

The *adult infant* is another type who should not marry. He (or she), like the first type mentioned, has never matured emotionally. The only son or daughter, or other children who have been pampered and sheltered from infancy by over-anxious or indulgent parents, are not fitted to meet the duties and conditions of adult life. They are continually looking for sympathy, especially when they encounter difficulties. In such a marriage, the husband must act the part of a father, or the wife the rôle of a mother.

The adult infant is generally discontented, selfish and overbearing. Frequently he becomes neurotic. Parents who have the future welfare and happiness of their children at heart should not "spoil" or unduly shelter them, and so unfit them for a happy adult life.

The homosexual man or woman is another type that will make a failure of marriage. Whether these persons are consciously or subconsciously homosexual, they can never acquire the normal feeling toward the opposite sex, as their sexual nature is biologically fixed. In their perverted sexuality, they will take pleasure in inflicting cruelty upon one of the opposite sex, or *vice versa* in submitting themselves to unnatural cruelty.

Sex crimes against women or girls, such as that of Hickman, are generally committed by homosexuals in an outburst of the sadistic impulse. In proportion to their numbers, the criminal type is rare.

There are just as many homosexual women as men, and they are just as incapable of making a success of marriage.

Instead of physical violence, the homosexual wife takes delight in tongue-lashings and mental cruelty.

The children of homosexual parents are likely to be sexually abnormal and incapable of a normal married life. Many of them become mentally diseased or engaged in criminal activities.

EDUCATING YOUNG PEOPLE FOR MARRIAGE

As a more general solution of the divorce problem, members of the medical profession have advocated the education of our young people for marriage, with classes of married and engaged persons taught by men and women physicians. Many men spend years of training for a business or professional career, but enter marriage without a thought of preparation. Young women go into teaching or other vocations well equipped but enter wifedom and motherhood lamentably lacking in necessary knowledge of physiology, anatomy and sex hygiene.

Medical Advice before Marriage. Advice from the family physician to young people before engagements are announced and thorough examinations before marriage would result in preventing many minor maladjustments. If these examinations and the requirement of a health certificate for marriage were customary throughout the country, many marriages now ending in the divorce courts would instead be happy and successful.

By their approval of and assistance in furthering this educational movement, clergymen can be of material aid to physicians in forestalling marital troubles and decreasing the number of divorces in their community.

HOW PHYSICIANS AND CLERGYMEN CAN COOPERATE

Both professions can lend the weight of their influence in urging laws which surround marriage with a reasonable amount of formality and publicity. Many hasty and ill-advised marriages would never take place if there were a

law requiring the publication of marriage intentions for at least three days in the public press. Laws requiring a lapse of three to five days' interval between securing the license and marriage would prevent unwise marriages between minors. It would make many adults regard marriage more seriously and prevent many mismatings of unsuited personalities who, if they only stopped to consider it, would realize they could never be happy together.

WHAT RELIGIOUS LEADERS SAY ABOUT THE DIVORCE PROBLEM

Most anthropologists and religious leaders agree that monogamy is the basic form of human marriage. As Professor H. S. Jennings says, "The monogamous family, with life-long union of the mates, appears as the final term in a long evolutionary series."

While polygamy has disappeared from western civilization and from many parts of the East, divorce is recognized as an increasingly difficult problem. In spite of prevailing opinion to the contrary, many religious leaders agree with scientists that the real causes of divorce lie in the profound biological and psychological, as well as historic and economic differences in the nature and lives of men and women.

Other Causes of Divorce. In addition to these physiological and psychological differences, religionists point to other factors as important in the increase of divorce and the lack of seriousness with which marriage is regarded, such as the changing status of the family, due to present social and economic conditions; the entrance of women into business; the gathering of people to the cities; the commercialization of recreation; economic tension and the lack of privacy in small homes. All these have combined to subject family relationships to increasing strain.

The widespread scepticism regarding marriage which is expressed on the stage and in modern literature has encouraged many to believe the family is a failure and to

substitute sexual experimentation, trial marriage and easy divorce for conventional marriage. Some young people have misused the greater freedom of modern life and have let their desire for sex experience have free rein.

Companionate Marriage. Not very long ago companionate marriage was urged for young people, as a solution of the drawbacks of conventional marriage under present social and economic conditions. When first proposed, companionate marriage was like other marriages, except that it was to be childless. Only under unusual circumstances such as ill-health and economic strain was this form of marriage approved by either physicians or clergymen.

The present conception of companionate marriage includes legal marriage, a knowledge of birth control, legal divorce by mutual consent at any time unless there are children, living separately, with husband and wife studying or working. It has been put forward as a remedy for premarital sex experiences, and as a relief from the strain of the sex instinct when young people, for economic reasons or because they have not completed their education, are unable to marry early.

Is It Really a Remedy? While realizing that circumstances may prevent desirably early marriage, clergymen believe that the companionate idea places marriage on a distinctly low level. Not only does it put sex desire first, but it unduly emphasizes *self*. At its inception it raises doubts about the future, substituting them for the ideal of life-long companionship which purposes to overcome all difficulties and to welcome children. It is the opinion of churchmen that companionate marriage, because of its hazards and uncertainties, would not result in greater marital happiness and success, but, on the contrary, in a decided increase in the number of divorces.

Civil divorce and remarriage are now provided by all governments, including Catholic nations. Most religions recognize divorce and remarriage on one or more grounds,

or, as in the Roman Catholic Church, grant annulments of marriage. However, the stability of the home is so important to society that religious leaders have refused to approve easy divorce and have been loath to countenance divorce and remarriage, except in very unusual cases. Their viewpoint is well expressed in the opinion of the Rev. Dr. Raymond Calkins of Cambridge, Massachusetts, who says, "I do think that separation is justified when husband and wife are physiologically and psychologically unsuited. Separation, in my judgment, does not necessarily involve legal divorce, and certainly does not justify remarriage."

Divorce and the Wife. Divorce has always been of greater concern to women than to men. They are closer to their children and more important to their children's upbringing than their husbands. After years of home-making, most women are badly handicapped to compete in the business or professional world. Especially where there are children, it is often impossible for the mother both to manage the home and contribute partly or wholly to their support. So far-reaching and tragic are the results of wrecking the home, particularly the home with children, that religious leaders, like physicians, have endeavored to foster the ideal conception of marriage as a profound biological-spiritual experience.

The Real Solution of the Divorce Problem. Like the medical profession, churchmen do not see the *real* solution of the divorce problem in mending the troubles of those already divorced or distinctly mismated. Rather, they are endeavoring, by teaching and upholding the ideal of marriage, to keep happily married those who are already married, and to educate young men and women for marriage. When frequently called upon for advice and counsel in marital difficulties and home problems, they try to find some practical solution which will keep husband and wife together. They also suggest, if possible, means for bringing

them into greater harmony in the future, so that the likelihood of divorce will be lessened.

A committee of eminent churchmen and laymen have recently made an investigation of marriage, divorce and home problems in this country. Among them were such prominent religious leaders as Dr. Howard C. Robbins, Bishop Francis J. McConnell, Dr. Charles K. Gilbert, Dr. Hubert C. Herring and Dr. Henry S. Tucker.

Where Religion and Medicine Join Hands. As a result of their findings they make a number of recommendations as to ways in which religious leaders can assist in decreasing the number of divorces in this country. They agree with the medical profession that much more can be done through the education of young people *before* marriage than through endeavors to unravel marital tangles.

They urge that the marriage problem be approached not so much from the viewpoint of emergency measures and legal and ecclesiastical enactments on divorce, but rather as an educational problem, to prepare people from childhood and youth for a happy and successful family life.

Clinics on Marriage and the Home. To this end they recommend the establishment in every city of a clinic on marriage and the home, in which interested medical and religious leaders would work together in rendering aid and consultation on family plans and problems. The staff would consist of a psychiatrist, a physician, a clergyman and a social worker, and for most efficient operation should be on a paid, full-time basis. These leaders express the opinion that organized religion should cooperate with the medical profession in giving the home the same expert, constructive counsel on this problem as is now given the community by specialists in other lines.

Training for Clergymen. This committee admits that organized religion can do very much more than it is now doing to lessen the unhappiness and to arrest the collapse

of breaking homes. In order that clergymen may be better able to assist in this work, the committee urges that theological schools provide for their students thorough training along this line, particularly in the realm of mental hygiene, family case work and sex instruction. For those already engaged in this work, they urge the continuance of social hygiene classes and conferences for clergymen which will enable them to keep in touch with developments of family life and prepare themselves for practical instruction in the family situation in their communities.

Educating for Marriage. Religious leaders also agree with medical men that practical instruction on marriage and the home should be given to all young people. Several religious bodies are already providing such instruction in their church schools. It is felt that a great deal could be done through pastoral classes among young people in preparation for home life and classes for fathers and mothers in the field of parental education.

In addition to instruction *in sex hygiene* and family problems, religious leaders believe that this many-sided and perplexing question would benefit by teaching young people along other lines which would make home life more successful.

In Home Finance. A frequent cause of marital unhappiness is insufficient income or financial mismanagement. They place an increasing strain upon husband and wife and upon growing children. While unemployment, sickness, low wages, etc., are fundamental problems which society must solve, the home is often upset by preventable financial difficulties such as mismanagement or extravagance. Education in home management and a clearer understanding of financial relationships and responsibilities before marriage would assist in preventing these ills.

In Home Economics. Closely related to financial management and to the health and happiness of the family is the home economics training of the wife and mother. Many

a marriage ship has foundered because the wife knew nothing about cooking and the planning of meals, to say nothing of other details of home-making. Many girls enter marriage with the most meager and superficial knowledge of budgeting, economical buying, cooking and housekeeping. With our increasing knowledge of the part which diet plays in good health, and good health in heightened resistance to disease, clergymen and women's clubs can do much to increase the number of happy marriages by urging all young women to secure some preparation in the home-making arts.

Care in Performing Marriages. As physicians can aid in increasing the number of happy marriages by medical advice and examination, so clergymen can assist by exercising care in the marriages they perform. Caution in marrying minors and runaway couples, investigation of strangers and divorced persons requesting marriage, will, in the opinion of eminent clergymen, decrease the number of unfortunate persons who "marry in haste and repent at leisure," often in the divorce court. Pastors, priests and rabbis can join with physicians in giving wholesome counsel to young couples seeking advice before marriage. They can render genuine service to the community by discouraging ill-considered marriages and encouraging those they have reason to feel will be successful.

Urging Early Marriage. In this connection, clergymen can unite with physicians in urging reasonably early marriage, when adjustment of the husband and wife is less difficult than when habits have become fixed, and when the bearing and rearing of children can be accomplished more easily than later in life.

The pathological aspects of marriage and family life always get the headlines in the public press. The increase in divorces is regarded as an indication of the failure of marriage as an institution. But life in the home still offers

the greatest happiness to most men and women, and the best environment for children. In the needed program of education and sane advice, physicians and clergymen can do much toward decreasing the number of divorces and increasing the number of happy marriages.

Chapter XVI

IS THE CRIMINAL SICK OR SINNING?

FOR centuries there has been a general tendency to draw a hard-and-fast line between right and wrong. Thieves, murderers, forgers and prostitutes were regarded invariably as criminals, and criminals as sinners. However, this viewpoint fails to take into account the influence of inherited traits as well as the particular circumstances which may have actuated the deed.

New Attitude Toward Crime. Today the new scientific and social attitude toward morals is changing our ideas about the criminal and the wrongdoer. We are learning that many unfortunate persons have inherited physical and mental weaknesses to such a degree that they have found it impossible to adjust their primitive instincts to society and social demands. In reality they are *sick* rather than *sinning*; they fall easy victims to "sin" because of actual physical and mental illness. The degree to which they have failed to adjust themselves to society distinguishes the habitual or chronic criminal from the accidental criminal.

Many cases of crime, alcoholism and prostitution are now considered as belonging to the field of mental hygiene rather than morals alone. Some psychiatrists go so far as

to draw a sharp line between immorality and disease. Not all criminals are psychopaths, nor all sinners sick. Most scientists, however, believe that it is frequently impossible to separate the two, and that each case must be studied individually.

Scientific Methods Versus Punishment. As a result of this modern viewpoint regarding the connection between crime and physical or mental disability, we have found that scientific methods rather than cold condemnation and punishment are the effective means of reforming the criminal and wrongdoer. By recognizing their physical and mental handicaps, we are able to apply measures which will help them to become useful members of society; or, in the case of constitutional criminals, we can prevent an increase in crime by confining them in institutions indefinitely.

The Criminal Insane. Perhaps the most frequent type of case coming to public attention in the past decade is the criminal insane. Many cases of sex crime, of torture and murder, no matter how their revolting aspects may arouse our indignation, are clearly matters of constitutional mental deficiency. Homosexuals are generally constitutional sexual perverts. Sadists such as Hickman, Mason and Hotelling delight in inflicting cruelty on helpless women or children and enjoy the death struggles of their victims. Their sadistic impulses are apparently uncontrollable. They cannot restrain themselves from deeds which are unspeakably revolting to the normal human being. They cannot be classed morally as sinners; they are in reality the victims of inheritance. Constitutionally they lack the inhibitions which would make it possible for them to be safe and useful citizens.

While the criminal type is rare, all homosexuals dislike or hate the opposite sex. Their children are frequently constitutionally psychopathic and become inmates of institutions or members of our criminal classes.

The Morally Insane. Other criminals such as James Baker have been called morally insane. Baker, only twenty-three years of age, was recently convicted of murder after a series of crimes beginning in early boyhood. This constitutional psychopath boasted of nine murders, saying that his extreme hatred for certain persons made him enjoy seeing them suffer under the influence of deadly poison. Such a person cannot be held morally responsible for his deeds and is not a safe member of society. He is *mentally* ill, just as a person with pneumonia is *physically* ill.

The Struggle against Inherited Defects. There are large numbers of criminals who have inherited defects of various kinds. They are not in a position to compete with normal individuals. To the lack of intelligence or to abnormalities of some kind is often added the handicap of poverty.

In other cases, severe mental stress suddenly excites insanity when the predisposition exists. Generally some situation arises which the individual cannot face, and he takes refuge in a world of unreality. Domestic or financial troubles, sexual problems, or the death of a dear friend or relative are the usual sources of difficulty. Sudden terrific shocks may have the same effect, and may be followed by deeds for which the unfortunate doer is clearly not responsible.

With the development of belief that mental and physical defects frequently have a direct causal relation to crime, psychiatric studies have been made in a number of prisons and reformatories. In 1916 such a study showed that two-thirds of the inmates of Sing Sing had some mental defect. One hundred convicts were selected at random in the Massachusetts State Prison. Investigation showed that 40 per cent were in some degree feeble-minded. The greatest number of mental defectives occurred among those serving terms for murder, manslaughter, burglary and robbery.

About fifteen years ago a study was made of one hun-

dred confirmed criminals, each of whom had been convicted at least four times. It was found that nearly half of them were defective: twelve were insane, ten epileptic, and twenty-three feeble-minded. In each case it was discovered that the mental defect bore a direct causal relation to the crime committed.

Crime and Abnormal Glands. Some years ago Dr. Ralph A. Reynolds in cooperation with the prison physician made a two-months' study of two hundred convicts in San Quentin Prison. They found that every one of the inmates had some abnormal glandular stigma.

More particularly they determined that there was a relationship between thyroid trouble and crimes of violence such as murder and assault; according to these findings every murderer, potential and actual, shows an over-secretion of the thyroid gland. Dr. Reynolds found the number of abnormal gland conditions to be about 40 per cent higher among prisoners than among the law-abiding population.

Moral Turpitude or Physical Defect. Without knowledge of physical defects, says Dr. Reynolds, we often condemn people unjustly. As an illustration, he cited the case of a girl eleven years of age who, because of a dysfunctioning gland, had developed all the physical and instinctive characteristics of an eighteen year old girl. With the experience of but eleven years, and the sex problem of eighteen years, is it any wonder that this unfortunate girl got into trouble?

Every psychiatrist and social worker comes in contact with many persons struggling in the grip of inherited weakness and disease. To the average observer they appear to be sinful; in reality they are sick.

Inherited Weakness. There is no truer scientific fact than the ancient Biblical saying that "the sins of the fathers are visited upon the children to the third and fourth generation," whether the "sins" be construed as

moral or as violations of the laws of physical and mental health. Many persons have been doomed to a life of insanity, disease and criminality because of an unfortunate inheritance. When a normal individual mates with an epileptic, feeble-minded or insane person, the child may or may not be sound. But if two normal people of tainted ancestry marry, part of their children will most likely be affected. Even more disastrous is the mating of two feeble-minded persons, for their children are practically sure to be feeble-minded.

Feeble-mindedness and Crime. Many confirmed inebriates, criminals, prostitutes and paupers are found on examination to be feeble-minded. An authority on this subject says that from a third to two-thirds of the prostitutes in our cities are feeble-minded. The White Slave Traffic Commission of Massachusetts discovered that one-half of the prostitutes examined were weak mentally. The feeble-minded make up a large proportion of the petty criminals who fill our jails. In a series of thirteen Chicago homicides taken at random, seven murderers were classed as normal, and six were found to be definitely feeble-minded or psychopathic personalities.

Mental Abnormality Among Prisoners. Studies of a number of prison groups have shown a high percentage of mental and physical abnormality. On examination of 1288 inmates of thirty-four county jails and penitentiaries in New York State, the National Committee for Mental Hygiene discovered that 36 per cent of the prisoners were "repeaters." Seventy-seven per cent of all prisoners examined were psychopathic personalities of clearly defined types.

A psychological survey of the prisoners in the Western Penitentiary of Pittsburgh disclosed the fact that 81.1 per cent were below the normal level of intelligence and one-third were recidivists. Of the 400 men and boys admitted to the Wisconsin State Reformatory in the year ending June, 1928, only 16 per cent had a normal mental develop-

ment. Only 23 per cent entering the State Prison were mentally normal.

Individual Treatment Necessary. A report on Health and Medical Service in American Prisons and Reformatories, prepared by Dr. Frank L. Rector, says, "For prison officials to ignore mental examinations in their treatment of inmates is to ignore the most important factor having to do with the social rehabilitation of this group."

Handicap of Inherited Weakness. With psychopathic inmates, individualized programs of treatment are doubly necessary, according to Dr. Rector. Their abnormal personalities make it much more difficult for them to conform to prison routine. Physical defects also handicap many prisoners; from 60 to 90 per cent of them suffer from defects of some sort.

While it is difficult to draw a hard-and-fast line between sickness and sin, nevertheless many cases of inherited weaknesses which have resulted in antisocial acts have been regarded by the old-time moralists distinctly as *sin*, not *illness*. The epileptic is generally pitied; the prostitute, the confirmed inebriate, and the criminal severely condemned. While this condemnation of the latter is to some degree a result of the injury affecting other persons, still in the mind of the general public there is a distinct division between the illness of the epileptic and the condition of the other offenders. People in general fail to realize the handicap of inherited weakness and the struggle of the unfortunate persons so afflicted through no fault of their own.

Solving the Drink Problem. It has been said that the "drink problem" would be solved if the mating of chronic inebriates could be prevented. While some believe there is a possibility of reforming the drunkard, there is no hope of reforming his germ-plasm.

Families of Criminals. Criminologists and students of the relation between disease and crime believe that the prevention of mating of criminals would go a long way

toward solving our crime problem. Such a family as the infamous Jukes tribe of New York State well illustrates the harm which may be done not only to society but to themselves. For two centuries they have procreated only paupers, prostitutes, idiots and criminals. A. H. Estabrook's study of this family, "The Jukes in 1915," shows what a handicap inherited physical, mental and moral weakness may be. He writes:

Of the total seven generations 300 died in infancy; 310 were professional paupers, kept in almshouses a total of 2300 years; 440 were physically wrecked by their own "diseased wickedness"; more than half the women fell into prostitution; 130 were convicted criminals; 60 were thieves; 7 were murderers; only 20 learned a trade, 10 of these in state prison, and all at a state cost of over \$1,250,000.

Such families as the Jukes are not so infrequent as most people suppose. Probably no state in the union is without many such families, some of them merely dependent and sexually immoral, others notorious as breeders of criminals. They supply a large proportion of court cases and are a source of thefts, depredations, physical decay and moral contamination.

"*Incurable*" *Criminals*. The family histories of many criminals show that they congenitally lack the inhibitions necessary for useful citizens. Dr. Healy and Dr. Bronner in "Delinquents and Criminals," write:

According to the best scientific knowledge of the present time, certain individuals are practically incurable in the sense of their being non-offenders in society. After most careful studies for classification, so that there can be little or no attempt at excusing poor therapeutic endeavor, such individuals should be held apart.

The problem is to deal with criminals as *individuals* and not as a class. Individual diagnosis is of utmost importance. The establishment of psychological clinics by Chicago, New York, Boston and other cities for the examination of

offenders is a praiseworthy step. In some cases they are attached to the police department; in others, to the courts. These clinics should pass on offenders *before*, not *after* commitment, for their findings may be such as to influence the disposal of the case, if punishment is to be truly constructive and beneficial.

Crime and Youth. At the present time in this and European countries, the outstanding fact in the crime wave is the *youth* of the offenders and the frequency of recidivism.

Doctors Healy and Bronner say:

Our records show how a vast deal of crime has its roots in tendencies established during the years of youth and even in childhood. We see hundreds of juvenile delinquents with careers unmitigated, unswerved, headed straight for a longer or shorter career of crime. Tracing the lives of several hundred youthful repeated offenders studied long ago by us and treated by ordinary so-called correctional methods reveals much repetition of offense. This is represented by the astonishing figures of 61 per cent failure for males and 46 per cent failure for girls.

These investigators add that if an individual reaches the young adult age without developing criminalistic ideation and tendencies, the job of prevention is accomplished in nearly every case. If by eighteen or twenty-one, decent mental and social habits have been established, there is very little likelihood of turning aside from desirable conduct.

Deplorable Home Conditions. Lack of early home training and deplorable home conditions are regarded by criminologists as the most powerful factors in the increase of crime today. Where there is mental or physical abnormality, criminal tendencies are developed by unfortunate home conditions rather than corrected while the children's character and habits are still at a formative stage. A large percentage of youthful criminals come from homes where there are crime, alcoholism, vice and mental abnormality.

Juvenile Gangs in Berlin. In Russian cities and in Berlin, in 1932, the number of youthful criminals was appalling. Probation authorities in the German capital estimated that there were 10,000 boys and girls in the 600 juvenile gangs roving that city, experts saying that over one-third have decided criminalistic tendencies from the beginning and become confirmed criminals.

Such boys, aged from twelve to eighteen years, come from homes already wrecked by poverty, illness and marital discord. Part of these gangs are merely roving bands of young vagrants; but many of them have crime as their avowed purpose, and play a bold hand. The strongest youth, the "gang bull," rules his gang despotically and sometimes even sells his youthful subordinates. Many of the gangs include a "gang cow," a wayward girl between twelve and eighteen, who belongs first of all to the gang bull and then to the other members of the gang.

Bad companionship and unfortunate early sex experiences are important factors in the development of delinquent trends. Youths with homosexual tendencies more frequently develop into confirmed criminals than almost any other abnormal persons.

Mental conflicts are responsible for some of the most marked careers of crime. If the inner forces of the mental life function unsatisfactorily and at cross purposes, the young person very often develops definite and deeply-rooted delinquent tendencies.

Criminal Careers can be Checked. Yet experienced students of social problems maintain that, even among groups of youthful offenders who have repeatedly failed, there are enough who do not become habitual criminals to justify the conclusion that no conditions, physical, mental, or environmental, preclude the possibility of checking the development of a criminal career.

Psychiatrists Needed in All Schools. One of the greatest opportunities for helpful cooperation between medical sci-

ence and religion lies right here in the formation of a comprehensive program for training the youth of this country. Experience in the clinics of some of our largest cities has shown the great need for trained psychiatrists in the schools of every community. Every child should be given an expert examination and then kept under constant observation. In this way, any deviation from the normal could be noted at its very inception and the necessary constructive measures be applied.

Under present conditions, many slight deviations from mental normality develop unnoticed and untreated. Frequently they develop into dementia praecox, from which a very large percentage of our insane in institutions are suffering today. Many others, though never confined, struggle through life, a menace to their families and the community. It is estimated that 60 per cent of the children who later become the criminal insane or drift into asylums could be saved through proper treatment at the very beginning.

Basic Element in Crime is Disease. Dr. Edward S. Cowles says:

It is now recognized that the basic element in crime is disease, that punishment of itself is no deterrent, and that proper medical, educational, and religious influences must be thrown about the child if we hope to save him. When he shows himself anti-social or a-social in spite of these influences, he must be taken out of society, be given care and the opportunity for rebuilding of character, and be permitted to return to society and social relationships only when he is clean and balanced mentally, physically, socially, and spiritually.

Dr. Cowles suggests a board of criminologists, jurists, physicians and clergymen to study crime and prison reform. "Religion is not saving souls for the next world," says Dr. Cowles. "It is the fitting of souls for *this* world. Religion concerns herself with the conduct of men here and now."

Animal Inheritance as Cause of Crime. C. E. Sajous,

M.D., declares that "the prevention of immorality in our growing generation is dependent upon procedures which can all be carried out." He places emphasis on *animal inheritance* as the cause of crime and immorality. If allowed to develop in the child unrestrained until maturity, this tendency to cruelty reaches such proportions that the man sinks to levels lower than the worst animals, who kill not for *cruelty* or *gain* but for self-preservation. During childhood and adolescence, the struggle between the animal instincts is keenest because of the exuberance of all physical and psychic functions. It is then that the parents should teach their children to control those animal passions which may later lead to crime.

Parental Control Needed. Ex-President Coolidge in an address attributed the crime wave in this country to decreased parental influence. "It is stated on high authority," he said, "that a very large proportion of the outcasts and criminals come from the ranks of those who lost the advantages of normal parental control in their youth."

The New York Children's Aid Society points out that boys possess a superabundance of animal spirits which under unfavorable conditions bring them into frequent collision with the laws and conventions of society. Children robbed of proper play facilities by economic pressure and urban life get their amusement in other ways. Studies made by the New York State Crime Commission indicate that 42 per cent of major offenders in the large cities began their careers as petty offenders in juvenile courts.

Vagrancy and Mental Ailments. Another class of unfortunates who are a social problem because of physical or mental ailments are many vagrants. A recent study of homeless men and boys in New York City made by Jewish social service organizations revealed that physical and mental weakness is a factor in a very large proportion of cases.

This report says in part, "Modern case work has discovered that a large number of the homeless men are either

mentally unbalanced or of defective intelligence." Thirty-one per cent of the cases handled during the year were definitely diagnosed as mental cases, many of them institutional types. Part of these men had to be sent to Bellevue Hospital for observation and commitment to state hospitals.

Much more common than dangerous criminals are psychopathic personalities, many of which have a hereditary taint. The casual observer calls their misdeeds "sin." But the psychiatrist and the social worker, from an intimate knowledge of these abnormal personalities realize that they are *sick*.

Such was the case of Theresa Beauvais observed by a social worker at the Boston Psychopathic Hospital. Her father was a professional thief and her mother a prostitute. At fourteen Theresa had already learned the dangers of pregnancy and ceased her promiscuity for other measures. She seemed to enjoy telling of her experiences and said she could not control herself in her sex relations. This was probably true. According to accepted social standards Theresa was immoral and sinful. But her tragic inheritance and her almshouse environment made the life of a normal girl impossible when friends tried to help her.

The Case of Mrs. Dolan. Inherited melancholia and alcoholism were in large measure responsible for a case such as that of Mrs. Dolan. Her mother and sister had long been in institutions for the insane. Mrs. Dolan had acquired syphilis from a sex delinquent and criminal husband while still in her teens. In straits about money, she pilfered merchandise from the store in which she was employed. After her release from a short jail sentence she became melancholy and "took to drink." While still a young woman, she was committed to an institution for treatment. In this case, heredity and environment produced a combination which it was impossible for Mrs. Dolan to withstand.

How can medicine and religion unite in practical, constructive methods for helping those criminals and wrongdoers like Mrs. Dolan who, through inherited taint or other physical and mental illness, are a menace to society and to themselves?

Religious and Medical Cooperation. First of all, it is necessary to get to the root of the trouble, to emphasize the value of parental training and to apply helpful corrective measures while children are in the formative period. Here I believe the physician and the clergyman may cooperate advantageously in educating parents to a realization of their responsibility. The physician may discover physical and mental abnormalities and point the way to their correction. The clergyman, in his position, may give helpful personal counsel to parents. In religious services he can impress parents with the importance of child training.

Child Training. Encouragement by both medical and religious bodies of the early, careful training of children will help when they are only slightly abnormal. The entire development of the instincts of the child from the age of four, five and six on consists of a gradual adjustment to the demands of society. Lack of adjustment distinguishes the habitual or chronic criminal from the accidental criminal. While it may be difficult to influence the former, helpful training may be given to the latter. Childhood is the best time for work against mental disease which may lead to delinquency, neurosis or crime. Preventive work should begin before the "problem child" reaches a court clinic. This is a deeper, wider service in which medical and religious-social bodies would do well to cooperate.

Of course, there are many homes which it is difficult to reach through educational efforts because of ignorance, poverty and total lack of interest. It is from these homes that many of our youthful criminals come.

Social Work. The social workers employed by Jewish, Catholic and Protestant religious bodies are doing excel-

lent constructive work with the young people in our juvenile courts, in investigating home surroundings, heredity and other conditions which may have a bearing upon youthful tendency to crime and instituting corrective measures wherever possible. It would seem to me that here lies one of the most fruitful fields for constructive cooperation between medicine and religion, between the psychiatrist and the social worker.

To my mind much more can also be done by psychiatrists and social workers from various philanthropic or religious organizations. Efforts thus far along these lines have yielded such worthwhile results, once the individual case was understood and constructive methods applied, that a wider application of psychiatric-social methods would materially assist in reducing the number of criminals.

Treating Sick Minds, Bodies and Souls. Dr. Richard C. Cabot, that great pioneer in medical-social work, has long insisted that the real value of this work lies in the diagnosis of human character, with care and treatment in the light of our knowledge of character. Hand in hand with treatment of sick minds and bodies, he believes must go a sort of character-building and treatment of "sick souls." This work will be especially effective when carried on in connection with juvenile court cases and first offenders. Removal or alleviation of handicaps at this time may be a turning point in the person's life.

Eugenic Measures. Criminologists and students of the relation between disease and crime firmly believe that eugenic measures would go a long way toward solving our crime problem. Attempts to restrict the reproduction of antisocial persons have already been made by several states through sterilization laws, though in most cases these are not actually in effect.

Public Education Needed. More effective would be the development of active disapproval of dysgenic marriages and the desire for eugenic mating. Since the marriage of

members of two feeble-minded, alcoholic or criminal families results in the perpetuation of such characteristics in intensified form, a vital need which can be stimulated by active medical and religious approval is the education of the public and the awakening of individual consciousness.

Thus far I have emphasized *preventive* measures. But much remains to be done in rehabilitating criminals already in confinement, those men and women who may be sick mentally, physically and spiritually.

When insanity is suspected in the criminal, I believe that he should be *examined by experts before the trial*, not after he has been sentenced to prison. The law provides for examination of the accused as to sanity, in the legal sense, when the question of his mental responsibility is brought into question. Defendant's counsel, in fact, is quick to take advantage of this provision as a possible means of mitigating punishment. However, in our great city of New York at least, it usually turns out that the lucrative appointment to a lunacy commission is a form of political patronage. It has happened that prisoners have been examined by lunacy commissions consisting of "one lawyer, one physician, and one gentleman," no one of whom professed even a rudimentary knowledge of psychiatry.

Obviously, no opinion as to sanity or mental responsibility is of value, unless it comes from an accredited psychiatrist. The lunacy commission could well dispense with the lawyer and the gentleman, and also with the doctor, if he happens to be a surgeon or an eye specialist.

Throughout the country there is a growing realization that habitual criminality may in itself be a symptom of mental derangement. Nearly ten years ago Massachusetts passed a law which provided that an indicted person accused of or known to have been previously convicted of a felony should be examined by the state department of mental diseases to discover any mental defect or condition which would affect his criminal responsibility. If the pris-

oner is found insane, he is at once committed to a State hospital. In Massachusetts this law has almost eliminated the plea of insanity; and accused persons mentally irresponsible are treated medically in hospitals rather than punitively in prisons. In New York State, there are special hospitals for persons who commit crimes for which they are irresponsible by reason of insanity (Matteawan) and also for criminals who become insane during the period of their incarceration (Dannemora).

Rehabilitation in German Prisons. In Germany, prior to the Hitler regime, constructive methods of rehabilitation were applied on the principle that the prisoner's physical nature and surrounding social conditions were responsible for his crime. While in prison he was given an education and taught how to conduct himself when he got out. His time was taken up with regular work. He was taught the principles of hygiene, for strong, healthy persons can more easily live a normal life and combat obstacles successfully. Prison authorities sought to inculcate altruistic ideas and influence the prisoner with church and school. A progressive system of education prepared him for a normal life among his fellows when freedom came.

Cooperation of Religious Societies. The German Reichsverband then included all prison societies: Catholic, Protestant and Jewish. They methodically studied each prisoner and his former environment. They endeavored to give the prisoner constructive aid and training while he was in prison, so that he might be ready to take his place in society when he regained his freedom. After he left prison, he was aided in finding employment and assisted in other ways until believed able to keep his place in society without the aid of these religious social-service organizations.

That prison should be a place of rehabilitation rather than punishment is the idea embodied by prison boards, welfare organizations and women's clubs as manifested in the new House of Detention for Women in New York City.

New Prison Methods for Women. It includes examination rooms and offices for psychiatrists, psychologists, doctors and nurses, as well as 186 hospital rooms with operating rooms, diet kitchens and other modern hospital facilities.

The prisoners are carefully segregated so that no youthful offender may learn more about crime. Diseased prisoners are kept in the prison hospital until cures are effected. Each prisoner has a separate room. Sanitary arrangements are excellent with hot and cold running water in each room, which is so built that it may be kept spotless. Exercise rooms are provided to keep the prisoners in good physical condition, and occupational facilities are supplied in the recreation rooms. The building also contains a large chapel where religious services are held.

This new House of Detention exemplifies modern ideas in prison reform and rehabilitation. Its advocates consider it the greatest forward step ever made in prison work. By correcting physical and mental abnormalities, it will endeavor to aid the women detained there to lead more normal lives and become useful members of society.

In considering crime and criminals from any angle, I believe that more constructive assistance and less destructive criticism may be given to them and other antisocial persons if the public is taught the strong influence of physical and mental handicaps and of hereditary taint in the struggle for existence. While it is difficult to draw a hard-and-fast line between sickness and sin, much can be done by careful study of the individual case and application of helpful measures by both medical and religious agencies.

Chapter XVII

STERILIZATION AND STERILIZATION LAWS

Interest in Sterilization. Eugenic sterilization has been a subject of discussion in the United States and other countries for many years. Recently, however, much greater interest has been exhibited, particularly in the United States and in Germany, in sterilization of this nature.

What is Eugenic Sterilization? As a eugenic measure sterilization should be clearly differentiated from castration and genitlectomy. While it is true that these are methods which have previously been used to produce sterility, and while castration still figures in some laws, eugenic sterilization is neither one nor the other. In the female it applies only to the surgical method known as salpingectomy which prevents motherhood by making the fallopian tubes impassable to the male sperm. In the male the simple operation known as vasectomy (removal of a portion of the canal carrying the sperm cells from the male glands) is the procedure of choice. Thus parenthood is prevented in a harmless and effective manner.

Eugenic Sterilization not Harmful. The method involves neither cruelty to the individual nor the removal of organs or glands, and there is no resultant loss of sexual gratification or desire. In fact, sterilization produced in

this manner does not alter the sexual life of the individual in any way.

Why Eugenists Advocate Sterilization. Sterilization has been advocated by eugenists as a means of elevating human society. It is problematical, however, as to whether or not it has accomplished its purpose in any great measure. Very often it begins by being a eugenic practice only to end by becoming social or humanitarian in nature.

The *first laws* to be enacted were in the United States and the first law to be adopted was in the state of Indiana in 1907. It met with difficulty in its execution and was abolished several years later. In 1909 laws were introduced in California, Washington and Connecticut. Gradually other states adopted similar laws and today 29 states may legally practice human sterilization. Since the enactment of the first laws, however, many changes have taken place. Varying statutes have been adopted, vetoed, amended and revised frequently, but in many states they are practically in disuse at the present time.

In California, where the movement has made more progress because enforcement has been more rigid than elsewhere, a summary of the results up to 1935 is not particularly encouraging from the viewpoint of eugenics. While California is a very populous state, less than 10,000 operations have been performed up to January, 1935, or in approximately twenty-six years. Thus it will be seen that application of the law even in the state of California is very limited in comparison to the extent of the problem. Although the sterilization statute in this state is compulsory in nature, it is rarely carried out without the consent of the patient or some close relative.

Sterilization in Foreign Countries. Sterilization laws have been adopted in Denmark, Switzerland, Germany and England, but for the most part have been too limited in application or too ineffective in practice to be of much fundamental value. However, the German law is the most

important and effective sterilization statute that has yet been passed. It was enacted in 1933 and went into effect in January, 1934. Regarding this law, the report of the Committee for the Investigation of Sterilization made by the American Neurological Association, under the Chairmanship of Dr. Abraham Myerson of Boston, says:

It is fair to state that it is not a product of the Hitler regime, in that its main tenets were proposed and considered several years before the Nazi regime took possession of Germany. Peter's* translation reads: "Those hereditarily sick may be made unfruitful (sterilized) through surgical intervention when, following the experience of medical science, it may be expected with great probability that their offspring may suffer severe physical or mental inherited damages. . . . The hereditary sick, in the sense of this law, is a person who suffers from one of the following diseases: inborn feeble-mindedness, schizophrenia, circular insanity, hereditary epilepsy, hereditary Huntington's chorea, hereditary blindness, hereditary deafness, severe hereditary physical deformity. Further, those may be made unfruitful who suffer from severe alcoholism."

It will be seen that this law is very precise and, as appears later, is, on the whole, in fairly good conformity with the present knowledge of medical eugenics.

It is enforced in a much more deliberate fashion than is the case in the United States and other countries of Continental Europe. Official data as to the number sterilized under this regime are not at present available. However, the results of the German experiment with compulsory sterilization will be watched with keen interest in the United States and other countries where laws have been more or less voluntary.

Reasons Advanced for Sterilization. As the whole subject is of such controversial nature it might be well to note a few of the outstanding reasons which eugenists advance for sterilization.

1. The alarming increase of insanity, feeble-mindedness,

* Peter, W. W. Germany's sterilization program. *Am. J. Pub. Health*, 24: No. 3, 187, 1934.

epilepsy, alcoholism, pauperism and certain types of criminality.

2. The tremendous expense incurred to maintain institutions for the ever-increasing number of defectives.

3. The fact that it is believed that defective people propagate more rapidly than do the normal population.

4. That the afore-mentioned conditions are mainly inherited.

5. That the environment is of much less importance than the germ plasm in the creation of antisocial persons.

Statistics on Sterilization. However, statistics up to the present time, especially in the United States, have not proved that sterilization is the method of choice for the elevation of human society. They have not proved that insanity and other mental defects are increasing to a point where alarm as to the biological deterioration of the race is felt. Doubtless, commitment to institutions is increasing, but in states where there are adequate facilities for caring for the mentally sick and where the social attitude is favorable towards the institution there has been no great increase in mental disease. Furthermore, good hospitals for mental defectives tend to remove them from society in general and therefore prevent them from becoming parents.

Sterilization and Criminal Sexual Offenses. Sterilization laws with reference to certain types of criminality have been ineffective in actual lessening of crime. Those persons who are guilty of criminal sexual outrages such as rape and sex perversions seldom commit their offenses with the idea of propagation and procreation rarely results. It can be seen that sterilization would be of little value in such cases as it in no way destroys the sexual impulses of the individual.

Expense of Caring for Mentally Defective. The enormous public expense of caring for mental defectives has been over-emphasized. They must be cared for either in

their own homes or in institutions planned for that purpose. While the expense of maintaining such institutions is indeed tremendous, it must also be remembered that the mental unfortunate, wherever cared for, represents an enormous financial and social burden to the community at large. When considered from all angles the institution is generally found to be the greatest measure of economy.

Fertility of Mental Defectives. The so-called fertility of the mental defective is a moot question. However, it is frequently found that these unfortunates are biologically as well as mentally defective. Those who in early life are afflicted by mental troubles are generally found to be less vigorous sexually than those who are normal. Contrary to popular belief, in studies made in large numbers of mentally deficient groups the birth rate has been found to be surprisingly low.

Heredity: Its Diagnosis and Prognosis. Although heredity is a widely studied and discussed problem, our actual knowledge of inheritance is very limited. Certainly sufficient progress has not been made along this line to make definite statements as to the diagnosis and prognosis of heredity. Many students believe that the degeneration of society is more related to environmental damage than to causes resulting from heredity. While heredity may and does operate to produce those who are mentally defective, this is not always the case. And although a large percentage of children born of mentally defective parents are themselves so afflicted, their plight is not in every case due to heredity. It may be due in some measure to environment, as environment and heredity go hand in hand. In many instances education and the proper social measures make it possible for the defective, especially in the higher strata, to become somewhat useful in the work of the world.

Attitude of Catholic Church toward Sterilization. One of the greatest forces against sterilization is the viewpoint of the Roman Catholic Church. Their position is clearly

and definitely stated in the following extracts from the encyclical of Pope Pius XI:

Finally, that pernicious practice must be condemned which closely touches upon the natural right of man to enter matrimony but affects also in a real way the welfare of the offspring. For there are some who, oversolicitous for the cause of eugenics, not only give salutary counsel for more certainly procuring the strength and health of the future child—which, indeed, is not contrary to right reason—but put eugenics before aims of a higher order, and by public authority wish to prevent from marrying all those whom, even though naturally fit for marriage, they consider, according to the norms and conjectures of their investigations, would, through hereditary transmission, bring forth defective offspring. And more, they wish to legislate to deprive these of that natural faculty by medical action despite their unwillingness; and this they do not propose as an infliction of grave punishment under the authority of the state for a crime committed, nor to prevent future crimes by guilty persons, but against every right and good they wish the civil authority to arrogate to itself a power over a faculty which it never had and can never legitimately possess.

Those who act in this way are at fault in losing sight of the fact that the family is more sacred than the State and that men are begotten not for the earth and for time but for Heaven and eternity. Although often these individuals are to be dissuaded from entering into matrimony, certainly it is wrong to brand men with the stigma of crime because they contract marriage, on the ground that, despite the fact that they are in every respect capable of matrimony, they will give birth only to defective children, even though they use all care and diligence. . . . Public magistrates have no direct power over the bodies of their subjects; therefore, where no crime has taken place and there is no cause present for grave punishment, they can never directly harm, or tamper with the integrity of the body, either for the reasons of eugenics or for any other reason. . . . Furthermore, Christian doctrine establishes, and the light of human reason makes it most clear, that private individuals have no other power over the members of their bodies than that which pertains to their natural ends; and they are not free to destroy or mutilate their members, or in any other way render themselves unfit for their natural

functions, except when no other provision can be made for the good of the whole body.

Other Viewpoints on Sterilization. Not only Catholics but also many leading biologists and sociologists of other faiths are opposed to sterilization. The writings of Charles A. Ellwood as quoted from the Report of the Committee for the Investigation of Sterilization indicate this attitude.

He says:

It is a counsel of perfection, which modern science has given us in the doctrines of eugenics; but like all such counsels it is socially valuable and is obviously closely allied with idealistic social religion. If eugenics were ever made the basis of a code of minute legislative prescriptions regarding marriage and reproduction, doubtless it would become an intolerable tyranny.

Garrison in his "History of Medicine" says:

Nature's tendency to revert to the mediocre level of the common stock, to Walt Whitman's "divine average," will make the average a very low level indeed if it proceeds downward from poor or faulty material to start with. It is a well-ascertained fact that the thoroughbred animal, with generations of biologically desirable ancestors behind him, is prepotent over the normal animal. But actual selection is often influenced by the bizarre caprices of "the unstable heart of man," and while individual propagandism could be made extremely effective, social control would be difficult of accomplishment without tyrannous espionage and surveillance. In the lower strata of society, marriage laws may not prevent illegitimacy or incest, vasectomy is dubious, and selective pure-line breeding, without some striking quality to start with, might only result in a race of negative prigs.

The Committee for the Investigation of Sterilization offers another viewpoint for consideration:

While we may state categorically that feeble-mindedness breeds no genius and that we have nothing to fear on that score from the sterilization of the feeble-minded, it does breed in very many instances, especially in the higher brackets, docile, servile, useful people who do the dirty work of the

race, who are so to speak its servants, who may be unnecessary in an ideal system of society but who certainly fulfill a social function at the present time.

When it comes to the mental diseases, and especially manic-depressive psychosis, this may be stated—that in the clinical practice of every-day psychiatry, one runs into gifted individuals who are definitely hypomanic and for whom, in definite measure, the hypomania is part of the drive by which they succeed.

In studying the histories of men of genius it is an impressive fact that many of them have been manic-depressive but so gifted and so endowed with creative ability that to have lost them because of compulsory sterilization laws would have been to impoverish society sadly. Some of the most talented and inspiring personalities of all time have suffered from some form of mental instability.

Negative Recommendations for Sterilization. In a summary of their report the Committee for the Investigation of Sterilization has made certain definite, though in a sense negative, recommendations:

First: Our knowledge of human genetics has not the precision nor amplitude which would warrant the sterilization of people *who themselves are normal* in order to prevent the appearance, in their descendants, of manic-depressive psychosis, dementia praecox, feeble-mindedness, epilepsy, criminal conduct or any of the conditions which we have had under consideration. . . . *Second:* Particularly do we wish to emphasize that there is at present no sound scientific basis for sterilization on account of immorality or character defect. . . . *Third:* Nothing in the acceptance of heredity as a factor in the genesis of any condition considered by this report excludes the environmental agencies of life as equally potent and, in many instances, as even more effective.

Favorable Recommendations for Sterilization. Following are the recommendations concerning sterilization made by the Committee to the Association for its consideration:

1. Any law concerning sterilization passed in the United

States under the present state of knowledge should be voluntary and regulatory rather than compulsory.

2. Any law concerning sterilization should be applicable not only to patients in State institutions but also to those in private institutions and those at large in the community.

3. The essential machinery for administering any law in regard to sterilization should be one or several boards composed chiefly of persons who have had especial training and experience in the problems involved, which should study each case on its individual merits, and should strongly urge, suggest, or recommend against, sterilization according to its findings. Cases could be brought before such a board by superintendents of institutions, private physicians, parents or guardians, or by the patients themselves.

4. Adequate legal protection for the members of such a board, and for the surgeons carrying out the recommendations, should be secured by statute.

Selective Sterilization. The Committee only recommends sterilization "in selected cases of certain diseases and with the consent of the patient or those responsible for him." They do recommend that "selective sterilization" be considered for persons suffering from the following diseases:

(1) Huntington's chorea, hereditary optic atrophy, familial cases of Friedreich's ataxia, and certain other disabling degenerative diseases recognized to be hereditary . . . (2) Feeble-mindedness of familial type . . . (3) Dementia praecox (schizophrenia) . . . (4) Manic-depressive psychosis . . . (5) Epilepsy.

Sterilization: an Added Liberty for Hereditarily Afflicted. It would appear that sterilization might be an added liberty and a humane choice for hereditarily afflicted men and women who are sufferers with such diseases and who, in case of marriage, would certainly run the risk of transmitting their defects to their children. However, in each case sterilization should be applied on the merits of the individual case.

Our knowledge of heredity is very incomplete and it

becomes ever more difficult to prognosticate those diseases that will most certainly be inherited.

Up to the present time it would be impossible to say honestly that the arguments for sterilization are based on proved scientific facts for the data in this connection are incomplete. The majority of facts that have been gathered with reference to probable inheritance are of too general a nature to have practical value. Many of the hereditary taints which eugenists believe would be eliminated by sterilization are due to faulty environment and should be conquered by other agents than sterilization.

Chapter XVIII

SEX AND SEX EDUCATION

UNTIL the last fifteen or twenty years sex, sex life and birth have for centuries been tabooed subjects.

Early Biblical View of Sex. This is quite contrary to the conditions existing in early Biblical times, when writings show that these subjects were discussed frankly and naturally. The overpowering attraction called love was represented as a divine provision which demanded that the people be fruitful and multiply. Instead of lauding the forcible suppression of the sexual impulse as a meritorious deed, Biblical writers held that conjugal association and the begetting of children should be looked upon as a commendable procedure.

The Medieval Church and "Original Sin." With the growth of civilization and the development of the medieval church, this attitude of frankness changed. It is always the partially veiled truth that is dangerous, for it is the product of a mental state which fears the consequences which must follow a full exposure. According to Bloch, this fear is significant also of the attitude taken for centuries by the church in regard to the question of sexual enlightenment. In all sexual life the medieval church saw only the darker side, the extravagances caused by

“original sin,” the aberrations which so often became the source of severe physical and mental sufferings. For this reason it reserved unto itself alone the right to decide all questions in this domain, and regarded attempts on the part of physicians to enter this field by means of instruction or advice with disapproval and as an infringement upon the clergy’s special right.

Luther’s Changed Ideas on Sex. As a leader in the Reformation, Luther promulgated the idea that sexual relations in themselves represent a thoroughly natural and honorable manifestation of life; that they are moral when viewed in the light of the responsibility that should always accompany them. He looked upon the sexual sense, like the rest of nature, as a divine revelation, always provided that no other than marital cohabitation could receive divine approbation. Later he reverted more and more to the Augustinian view, which is even today upheld in some religious creeds, that marital cohabitation may serve only for the purpose of propagation, and where its object is essentially the satisfaction of sexual lust, must be considered an outcome of that human denature caused by “original sin.”

Sex and Modern Religion. It was not until the twentieth century that certain religious leaders again began to realize that sex and sex life are purely natural processes and should be explained by purely natural means. They agreed with science that the cohabitational and propagational impulse, conception, pregnancy and childbirth, as well as diseases resulting from aberrations of sexual life, are to be explained as natural physical processes remediable by natural means. They realized that if no part is played by “original sin,” by demons, by mystic influences or miraculous forces of any nature, then many perplexities of conscience disappear and there is far less appeal by repentant sinners for consolation and aid.

For many centuries, then, the subject of sex and sex

life has been clothed with shame and regarded with a false attitude. Many young people have been kept in complete ignorance of everything related to the subject, for ignorance was supposed to protect. Thousands of parents today still adhere to this ancient viewpoint and fail to give their children the protection which comes from a knowledge of facts and how to use them helpfully.

Sex an Integral Part of Personality. In reality, sex is an integral part of the personality. It is as much a part of our normal life as eating and bathing. It is not like a piece of clothing that may be put on and taken off, cleaned or replaced at will. It permeates the entire personality of the individual, who must adapt himself one way or another to this sexuality, spiritually and bodily.

That sexuality is classed among the so-called pudenda, which are not talked about, in no way alters the matter. As part of the personality, it not only belongs to the purely physical sphere but is also a part of the mental, psychic constitution of man. Sexuality manifests itself not only physically but always in some manner mentally, psychically. Even after the extirpation of the pertinent organs psychic sexual life does not cease. Sexual life is bound not only to this specific sexual apparatus but is anchored also in the central nervous system. In desperate cases of excessive, pathological and, because of its abnormal direction, ruinous impulse, the attempt was formerly made to eradicate the evil by means of operative intervention. As a psychic cure was never attained, such methods have now been discarded.

Cause of Sexuality Chemical. At the age of puberty, under normal conditions, there arises even in the most unspoiled girls and boys an undefined longing for the opposite sex. According to Bloch, Haeckel and other writers, the cause of "sexuality," of specific "maleness" and "femaleness" is a chemical one that emanates from the so-called inner secretions of the germinative glands, the



FIG. 15. MARTIN LUTHER.



testicles and the ovaries. The chemical influence of the internal secretion brings about a sort of intoxication of the brain, an eroticism, which represents the substance of "love's inebriation."

The sense of smell, in particular, has for a long time been popularly known to be intimately related to sexuality, but only within the last few decades has this question been scientifically studied. According to Haeckel, smell is the quintessence, the primary nature of love. The sexual excitation which drives the gonads towards each other, which constrains the lover to seek his mate is, in his opinion, nothing more than an olfactory impression. Whether the overpowering attraction which we call *love* be dependent upon an odor or upon some other cause, it is certain that it is dependent upon a law of nature.

Only Aberrations of Sex Are Sinful. It is obvious that the sexual impulse, considered as a natural process, cannot be in any way disgraceful, sinful or base. Such designations apply only to aberrations of the sexual sense. Eating, drinking or sleeping, *when intemperate*, is aberrant and harmful. Then, however, it is always the individual alone who suffers as a result of the aberration. But the afflictions that arise from misdirected and uncontrolled sexual desires are so enormous that they alone suffice to prevent the satisfaction of sexual desire from being placed upon the same plane with the satisfaction of the sense of thirst, hunger or any other physiological function.

Sexual excitability occasionally lays a distinct impress upon a person. Or in cases less plainly apparent, it seems to belong to that class of imponderables which may be of essential importance but comparable to the iridescent scales upon the wings of a butterfly. As a matter of fact, the sexual element figures as a main impulse within the totality of life and is never without significance for health in general.

Sexual Life Affects General Health. Any material dis-

order in sexual life affects the general health, and a healthy sexual existence represents a hygienic advantage for the entire individual. Yet there are very many shadings in strength, nature and direction of the sexual impulse; there exist insufficiency manifestations, indifferentism, impulses varying from abnormal feebleness up to those of ungovernable passion either with perfectly normal tendencies or with the most manifold perversion. Such qualities naturally leave their impress upon the rest of the mental comportment and influence the entire manner of life, including the ethical. In turn, the ethical deportment of a person often affects his subjective general state and the condition of his health.

Abnormal Sex Life and Mental Disorders. An abnormal sexual life need not lead into positively *injurious* or *dangerous* paths. Too often, however, this is the case, with the effect of destroying the so-called joy of life. Frequently such abnormalities expand into actual mental disorder and a depressive psychosis results; or a paranoid state develops in which the person has and can use all his mental powers, in which he reasons correctly but does so from a distorted or false point of approach. Under such conditions the abnormally oriented sexual impulse may turn the entire behavior of the individual into something vexatiously questionable. The bearing of such problem-natures toward their environment frequently causes situations which in themselves injure the nervous system and disturb the mental equilibrium of the person.

SEX EDUCATION

In considering the much debated subject of sexual enlightenment, I believe we can start on the premise that the sex impulse is natural and normal, in spite of the mystic veil which even at the present time enshrouds for so many people the processes of conception, embryonal development and parturition.

Sex Education Highly Necessary. In my estimation, some form of enlightenment upon sexual matters is not only desirable but in the highest degree necessary. This is so because ignorance in this direction, as well as the confused notions of many adults on sexual matters, beyond any doubt constitutes a far greater evil than possibly could be implanted by a clear understanding of the physiological and pathological processes related to cohabitation and impregnation.

Modern Youth and Sex Frankness. Because of modern social and economic conditions, sexual enlightenment is a more vital need than ever. Today young people have a questioning attitude toward life: towards sex, sex relations, marriage and family life. They do not accept the old standards. The development of scientific knowledge has influenced and molded this new attitude to some extent. Fears resulting from ignorance are gone. The economic independence of women and the greater freedom and social mingling of the sexes have resulted in a certain frankness about sex and sex relations.

In spite of this, much misinformation is spread nowadays among young people. Whatever one's attitude toward the advisability of sex education, the fact remains that many other young persons, in consequence of their ignorance and inexperience, become the victims of unscrupulous seducement.

Sexual Ethics Furthered by Sex Education. Sexual ethics, therefore, are best furthered not by an anxious avoidance of the theme as a *noli me tangere* but by the endeavor in every way to arouse and emphasize the responsibility that the sexual problem involves. For this purpose it is preeminently necessary that every person should, at the age in which the sexual function normally develops into maturity, possess ample information regarding the sexual processes and the evils that may result from their aberrations. Since the sexual impulse constitutes a

part of the order and laws of nature, it can be but a question of directing it along such paths that it will be of service to the individual as well as to the race. Not reticence and silence concerning sexual matters, but a clear insight into the evil consequences of an unbridled sexual life will strengthen the sense of responsibility.

Need for Sex Education. When we hear of young girls entering matrimony without having any comprehension whatever of the maternal function; of others who become greatly alarmed at the onset of their first menstrual period; of perfectly innocent young persons of both sexes who, in consequence of their ignorance, find themselves in the most compromising situations and through venereal infection are made miserable for the rest of their days, then it becomes evident that parents and teachers, physicians and clergymen, should no longer blind themselves to their most righteous duty but should attack the evil at its very root.

The need for proper sex instruction becomes all the more obvious when we consider that prurient literature, frivolous companionship and visits to so-called places of amusement in many cases furnish the sole instruction upon sexual matters that the young person receives at a time when the dawn of sensuousness carries with it the greatest menace to the development of character. The more ignorant young people are in sexual matters, the more will they become a sacrifice to those lustful notions with which pornographic literature befogs the brain and possesses the imagination. Should we permit our young folks to obtain their knowledge from a defiled and filthy source, when proper information regarding the purpose of the sexual impulse and the responsibility that its exercise carries with it, properly conveyed, would be the purest means to satisfy their thirst for knowledge and at the same time would safeguard their mental and physical well-being?

Protective Value of Correct Sex Instruction. Some people contend that such matter-of-fact instruction concerning the purely natural causes of sexual desire would deprive the latter of its elemental force and amatory life would lose much of its attractive power. This is not a fact, however, for students of medicine and of the natural sciences, who certainly receive all possible enlightenment concerning the sexual processes and all other intimacies of the human body, become stricken by Cupid's darts quite as easily as do other less thoroughly instructed persons. Even if we admit that deliberate practical consideration of a process common to both man and the lower animals did partly destroy the mystic veil about it, this would be preferable in order to attain the desired end. Things in nature are never shameful, even when opposed by our esthetic sense, as is the case with sensitive individuals regarding the excreta of the body. Just as we need not be ashamed of the latter or of our congenital nakedness, so the sexual impulse need not become degraded through being recognized as a purely physiological act. Even if it does offend the sensibilities of hypermoral individuals, sexual enlightenment nevertheless possesses the inestimable advantage of conveying a number of inhibitory ideas which strengthen the conscience and the sense of responsibility and act as a protective wall against many misuses of the sexual impulse.

Sexual enlightenment of young people should, therefore, be something entirely different from what past generations have received through pornographic literature or unhealthful associates. This is almost certain to arouse erotic notions and stimulate sexual desire. In contrast, the enlightenment advocated by physicians and religious leaders will act as a direct protection against untimely and inappropriate sexual activities. As Helmholtz said, the full recognition of truth carries along with it the remedy

against the dangers and detriments that may now and then accompany the half-recognition of such truth.

The Clergyman's Wide Influence. Unquestionably, clergymen and other religious leaders, directly or through parents, teachers or medical instructors, can do a vast amount in aiding the sexual enlightenment of those who have confidence in the voice of the church. Because of the very esteem in which he is held, the clergyman is the proper person to dispel the enormous prejudices which may exist among his own parishioners and which prevent a free expression of opinion regarding this tabooed subject. In fact, such work is already being done or approved by unprejudiced religious leaders who do not recoil from the admission that sexual things in themselves do not carry disgrace.

Parental Attitude. The best foundation for a natural, healthy sex life is simple instruction given directly to the child by well-informed, intelligent and unprejudiced parents. Of course, the parents themselves must have a healthy attitude toward life, sex and sex relations. Mentally healthy persons find happiness and satisfaction in sex relations. Lack of such happiness is a sign of maladjustment or mental ill health.

To guide children wisely in the physical aspects of sex development, parents themselves must be thoroughly informed about their bodies. They must brush aside false modesty and learn the scientific facts about sex and reproduction. They must understand how children develop and be able to give them correct information in answer to their many questions. This is an important point; for, though most parents realize a child needs training in many fundamentals such as cleanliness, the proper manner of eating, etc., they forget that he must have training in sex behavior, as well. They completely ignore that subject.

How to Answer Sex Questions of Childhood. In the first

place, it is necessary to answer in an intelligent and matter-of-fact way the child's questions about sex. "Where do babies come from?" and similar questions are asked in early childhood and are best answered before the difficult period of childhood begins, from nine to eleven. Even the father's part in reproduction may safely be told. William Byron Forbush, writer on the physical, moral and religious training of children, says:

There is an unwise reluctance as to revealing the father's part in reproduction. Children have anguished over the puzzle, with the result that both boys and girls grow up with the feeling that, however beautiful and noble motherhood may be, there is something shameful about becoming a father. That this feeling has had its result in degrading fatherhood and in encouraging impurity among boys there can be no question.

If the fitting opportunity be grasped, the attention of the growing child may be called to the manner in which nature so purposefully and wonderfully provides for the maintenance of plants and animals: how the functioning pollen is carried to some plants by the winds and to others by butterflies; how some animals bring young into the world without a preceding impregnation; and how impregnation, that is, a conjunction of male and female germ cells, is the rule. Then children, particularly those who live in the country, may be shown and observe that certain animals like birds and fishes do not bring forth living young but that the latter develop from eggs that have been previously laid. They may also be shown that in all mammals, to which class man belongs, the young grow in the mother's womb until they are mature and then come into the world alive, as may be witnessed in dogs, cats, cows, horses, etc. This of itself will be sufficient to enable older children of normal intelligence to draw the inevitable deductions. Elaborations and further

instruction are given later by the teacher in the lessons on natural history.

The Difficult Age. Between the ages of nine and eleven, when the child's mind often touches on the vulgar and obscene, it is very difficult to answer sex questions or give sex instruction. If the child's questions have not been answered before this period, then they will have to be delayed until puberty or adolescence.

Normal Sex Attitude Necessary. According to many psychologists, the hardest thing for a boy or girl to attain is *heterosexuality*, a normal attitude toward the opposite sex. Parents will do well to have boys and girls play together from early childhood and thus have a normal attitude toward and interest in each other. This is absolutely necessary for happy mating. Boys and girls should have many social contacts as they grow into youth.

Home and the Child's Ideal. It is also of vital importance that the child should have a healthy mental attitude toward love, marriage and home life. The greatest influence and example in this respect are the child's own parents. Is their home life happy? Do the father and mother love and respect each other? Do they make a happy and interesting home for each other and for their children? If these ideal conditions exist, the child's ideal of love, marriage and home life will be based on them. They will seem the logical, natural occurrence of early manhood or womanhood.

Character Training. In this ideal of love and marriage, character must play a strong part. Even though sex happiness and complete adjustment are extremely important, unselfishness, a controlled temper, kindness, thoughtfulness, optimism, sharing of responsibilities, burdens and troubles, and respect for the rights of others, all these admirable traits of character smooth the way over many rough places in married life and build a more permanent,

enduring and spiritual love upon the foundation of sexual compatibility.

A healthy social life for boys and girls helps them to gain respect for each other, to judge character and to approach marriage with a normal attitude. Again, parents who provide wholesome occupations in both work and play will find that their children will have a healthy aversion to unwholesome thoughts and practices.

Whether sexual enlightenment will constitute a benefit or an injury depends entirely upon the manner in which it has been conveyed. The careless treatment of this subject by ethically inferior persons has certainly proved to be the ruin of many children who were not yet mature enough for the knowledge of sexual matters it was sought to convey or the manner in which they were presented. But it is quite inconceivable that a serious, pertinent explanation of the sexual function along the lines we have indicated can cause any mischief.

Unfortunate Modesty. Many parents, however, unfortunately lack the skill and pedagogic wisdom that is needed for even simple sex instruction, in which it may be quite as great an evil to say too much as it is to say too little. Moreover, a rather comprehensible reserve will restrain many parents from talking to their children about the intimacies to which they themselves owe their existence. There are many things which we cannot brush aside, against which our feelings, without any reason whatever, will rebel. Many parents clearly comprehend that the sexual impulse is a physiological function just as are those of ingestion and excretion. While the ingestional impulse is satisfied without hesitation before the eyes of other persons, it would be considered a cultural retrogression if our excretory needs or our sexual desires were satisfied in public, or if we were to go about in our natural nakedness. This justifiable sense of modesty explains the

aversion of many parents to enlightening their children upon sexual things.

Classes for Young People and Adults. Wherever all enlightenment along these lines has been omitted, as it is in so many homes, it is my opinion that classes for young people and adults should provide sexual instruction. Physicians are undoubtedly most adapted for this work, for only they are able to appreciate to its full extent the influence that sexual life exercises upon the individual and upon the race. No matter from whom it may emanate, all sexual enlightenment must hark back to the viewpoint of medical science. The dominating principle must be that the sexual enlightenment of young people should never be left to chance, to filthy literature, or to the instruction so freely offered by sexually experienced companions.

Sex Education Urged by Clergymen. Because of the large and vital part which sex life plays in daily existence, various religious bodies are advocating sexual enlightenment for all men and women, boys and girls. The statement of the Reverend Dr. Raymond Calkins of Cambridge, Massachusetts, is representative of their common realization of the serious need for wholesome, scientific instruction. Dr. Calkins says:

Sex education is one of our major problems. I think that every adolescent boy and girl should be instructed in the basic facts of the sex instinct, sex organs, and reproduction. If the parent does not care to undertake this instruction, the family doctor or the minister can be brought in. I think the clergyman may well be brought into this; and while such instruction may not be practicable in the church school work, he can see to it in his boy and girl organizations and in his addresses to young people that wholesome instruction can be given and shall be given.

Whenever opportunity permits, clergymen of all faiths are urged to aid this important cause through their influence, instruction and personal advice to parents in regard

to child training. Because of the esteem in which he is held, a clergyman can influence children and young people directly or through their parents, and can doubtless do more to further sexual enlightenment than any other person in his community.

The Federal Council of Churches last year advocated that their church schools include in their curriculum courses on preparation for successful family life. They urge that such instruction be given from childhood and youth. "When they see the way clearly, most young people rise splendidly to the opportunity," says their report, and adds, "What young people need is restraint, voluntary restraint of course, and not greater freedom in the form of sex indulgence."

Pastoral Classes on Home Life. Clergymen are also being asked to conduct pastoral classes among their young people in preparation for home life, and classes for fathers and mothers in the field of parental education. Much can be done in these classes to disseminate correct sex information and to teach parents the best method of informing their children on this subject.

At the Body and Soul Medical and Mental Clinic in New York City individual advice on sex problems is being given. There physicians and clergymen cooperate for the physical, mental and spiritual recovery and helpful training of patients, many of whom have come to them in despair of hope from any source.

The Dangers of Psychoanalysis. This Clinic emphasizes the need for a stand against the absorption of many of our young people in psychoanalysis. Of this Dr. Cowles writes:

Our young people, reading and studying this subject, are imbued with the idea that they must repress nothing. Their friendships soon become homosexual relationships. Self-expression has become their watchword. They know no restraints. Sexual wishes or thoughts soon become promiscuous sexual

acts. And they go on and on until all standards are swept away in the craving for expression.

Inhibitory Value of Sexual Enlightenment. The chief benefit of proper sexual instruction lies in the inhibitory ideas that will be aroused by a clear understanding of the unavoidable results of sexual aberrations. Young persons must be impressed with the facts that sexual excesses exhaust the nervous system and destroy the capacity for work; that venereal infection through its complications often carries in its train invalidism, serious degenerative diseases and early death; and that syphilis and other constitutional diseases are often transmitted to the offspring, condemning them to early death or rendering them unhappy for their entire lives. It should be clearly explained that these results are not a divine punishment or a special intervention of God but occur in consequence of natural laws; and that for these very reasons the sexual impulse, even if it may not be permanently forcibly suppressed, must be kept under dominance of the will and properly restrained.

The outlook for cooperation between medicine and religion in the extension of sexual enlightenment and ultimate increased happiness in the home is most encouraging. A recent report of the Federal Council of Churches says that "this growing understanding between the church and the scientific world is one of the most encouraging trends of the hour."

Chapter XIX

WHICH SHALL SURVIVE, MOTHER OR UNBORN CHILD?

THE obstetrician in the exercise of his profession not infrequently encounters conditions which oblige him to choose between sacrificing the life of the unborn child or that of the mother. What course is the physician to follow when faced with the difficult task of determining whether mother or babe shall enjoy the inviolable and inalienable Right to Life?

Such are the perplexing dilemmas which bewilder the physician in certain crises of pregnancy as pernicious vomiting, eclampsia, nephritis and acute yellow atrophy of the liver. So, too, is the fallibility of his decision tested when the life of a pregnant woman is endangered because of complicating acute or chronic disease such as pneumonia, typhoid or tuberculosis. When there exist such marked obstacles to the birth of a living child that it can be delivered only through artificially opening the abdomen of the mother or by surgically enlarging the bony passageway of the pelvis, yet neither of these operations can be performed on account of the precarious condition of the mother, then the moral obligations of the crisis assume monumental proportions.

In the words of Dr. Joseph B. De Lee of Northwestern University Medical School:

Nowhere in all medicine does so heavy a responsibility rest on the medical attendant. He is judge, jury, and, perhaps, executioner of an innocent baby, and he can hardly be blamed if he shrinks from the painful task.

Acute Crises Which Demand Courageous and Decisive Action. The means available to the physician defending the life of the mother are induced abortion and destruction of the unborn child by mutilating operations to make it smaller for passage through the birth canal of the mother.

Perhaps in no other field of medicine have moralists so definitely defined the behavior of the attending physician. I refer to the restrictions which certain Catholic authors have placed upon the physician in the exercise of his duties where therapeutic abortion or destruction of the unborn child is indicated.

Prohibitions of the Moralists. Dr. Austin O'Malley prefaces his book, "The Ethics of Medical Homicide," with the assertion:

Decrees of the Catholic Church are cited in these pages, not because morality is an asset of the Catholic Church alone, but because it alone pronounces officially on these medical subjects after careful consideration by competent specialists.

Generally speaking, however, moralists leave to the judgment of science the delicate evaluation of conditions when the importunate right of the babe to live conflicts with the right of the mother.

Legally and scientifically the mother may expect of the medical profession full protection of her life and health even at the sacrifice of the child. Catholic moralists, while acceding to the mother the right to live, accede the same right to the child and do not grant to man the prerogative of interfering with the claim of either. In Catholicism the

attending physician must use every means, short of attacking life *directly*, to preserve both mother and child. Let the cards fall where they will; should either mother or babe die incident to the conservative therapeutic measures adopted by the physician, it is the will of God and morally the physician cannot be held accountable to his Maker: "death from natural causes is one thing, so-called therapeutic death, quite another."

In dealing with an actual conflict between the life of the offspring and that of the mother, the question at issue is, which life is to be the more highly valued? Catholic authors do not concede to science the right to sacrifice the child to save the mother. The child, through force of circumstances, is their argument, occupies a state of complete passivity and, through no fault of its own, has become a menace to the life of the mother. In the far greater number of cases the obstacle to parturition is due to the abnormal conformation of the mother and not in any way to the child. In assuming the procreation of the child, the mother has assented to the risk of a pregnancy and of a parturition that may endanger her life. Hence, in Catholic opinion, the child cannot be considered the "aggressor." Nor is the mother by her assent or the physician, who acts as her agent, justified in compassing the death of the child as a measure of necessary defense.

Catholicism demands, whenever there is a conflict of claims, that therapeutic procedure which will insure the bringing into the world of a living child. The conclusion naturally follows that in Catholicism a higher value is placed upon the life of the child than upon the life of the mother.

Evaluation of the Child's Rights in Catholicism. The majority of obstetric authorities do not agree with this stand. When attending a Catholic family, however, the obstetrician will chart his course according to their religious convictions unless, in his opinion, the requested

therapeutic procedure will undoubtedly sacrifice the mother. In this eventuality the physician may retire from the case.

One of the fundamental creeds upon which Catholicism bases its system of logic limiting therapeutic procedure is the importance of baptism. A devout mother must be ready to sacrifice her own life in order to bring into the world a living child, which in Catholic creed not only has a right to life but to baptism through which it partakes of the mercy of God. This standpoint is by no means determinative for all who are religiously inclined. Those of other faiths do not consider it justifiable to assume that a living child must be brought into the world to the detriment of the mother lest through lack of earthly baptism it lose its right to salvation. Even adopting the premise that the child is with its procreation endowed with an immortal soul, medical science does not find *summum jus* in permitting the mother to die in order that her child may be baptized.

Is Therapeutic Abortion Ever Justified? In the consideration of induced abortion, present-day medical science and religion are morally in general accord on one issue: When there is no existing pathological obstacle to parturition or the preservation of the mother, pregnancy is not to be interrupted for convenience because of hereditary taint or great poverty of the parents, even though the child will in all probability be destined to a wretched existence and its birth can represent nothing but increased human misery. But in the consideration of so-called therapeutic abortion, medical science and Catholicism hold diverging views.

Scientifically and legally, induction of abortion is classified as criminal or as therapeutic. Criminal abortion is that undertaken solely for the purpose of getting rid of the product of conception, and not necessitated by the state of the mother's health. "Therapeutic abortion" is permitted,

legally and scientifically, when in the face of a pathological condition it is necessary to preserve the life of the mother.

Catholicism does not tolerate therapeutic abortion. In its analysis, artificial abortion must be classified as *direct* and *indirect*. According to Catholic precept the physician must never attack the living fetus, no matter how great the apparent resulting good. While others may claim the moral "right" of choosing between the evil of terminating the growth of the embryo to save the mother and the evil of letting the mother die through inaction, the faith of Catholicism unhesitatingly and unequivocally denies the right to the physician of "doing evil in order that good may result."

Direct abortion, in which the removal of the fetus is the direct object of the therapeutic procedure, may not be resorted to, in Catholicism, even in the most serious conditions of pregnancy. The Roman Church allows no exonerating circumstances in a practice which she openly labels as murder. Should the crisis of the mother, however, require an extreme treatment which as a secondary incident may result in the abortion of the fetus, the physician may pursue the indicated medical or operative procedure irrespective of the consequences. Such a fetal death is produced in *indirect* abortion. It is an "accident" occasioned by a mode of therapy safeguarding the right of the mother to live but not directly attacking the equally important right of the embryo. Such a death is the will of God and God will not hold man accountable.

Should an Ectopic Pregnancy be Removed Surgically?
An interesting corollary to this doctrine is reached by Catholic moralists in the abnormal contingency called ectopic pregnancy. In an ectopic pregnancy the fertilized ovum embeds itself and develops outside the usual and normal place in the uterus of the mother. The prognosis for such misplaced pregnancies is decidedly unfavorable for the mother. As long as the embryo is permitted to re-

main alive, the mother is in grave danger of death from hemorrhage, shock or septic poisoning. Should she survive, she may be invalided or rendered sterile from peritonitic adhesions.

The number of maternal deaths in ectopic pregnancy has been found to exceed greatly the survivals when operative procedure to remove the gestation has not been resorted to. An authority, Schauta, has reported 75 recoveries and 166 deaths in a series of 241 patients in whom nature was allowed to take its course until symptoms arose requiring definite medical intervention. Present-day operative therapy has, however, resulted in reducing the mortality to very low figures. While it is true that many women recover under a policy of waiting to see how nature will take care of the abnormality, the immature embryos die or, if they do attain their full growth, are usually deformed and incapable of living outside the mother's body. Occasionally an ectopic fetus, reaching full term, when removed from the mother's body may live for varying lengths of time. A medical investigator, Haines, reporting forty operations for ectopic pregnancies more than seven months grown, found that of the prematurely delivered fetuses twenty-five lived for periods varying from a few moments to fifteen years.

Modern obstetric practice, unrestricted by religious scruples, demands that an ectopic fetus be removed surgically as soon as possible. So grave are the dangers of inaction that the medical writer, Werth, has termed the growing ectopic pregnancy "the explosive body."

Catholic moralists hold to a viewpoint entirely divergent from that of medical science. It is their claim that the ectopic embryo deserves the same consideration as an embryo normally growing in the mother's uterus. In the accident of its becoming situated in an unusual position within the mother, it has been entirely innocent and pas-

sive and has the same right to live as does a normally placed fetus or as does the mother.

Hence, if an ectopic fetus is alive or there is possibility of its being alive, Catholicism restrains the physician from operation as a precautionary measure. Even though the woman is in constant danger of death, the Catholic view is that just now the fetus is not causing fatal hemorrhage and has a right to live and grow and only God may terminate the right. The mother, however, is to be removed to a hospital and constantly watched, with everything ready for immediate operation should rupture of the fetus through the maternal tissues finally bring on severe bleeding.

When there are actual symptoms of grave hemorrhage, the Roman Church permits the surgeon to operate at once, but only for the purpose of ligating the bleeding blood vessels, to save the mother. Indirectly the operation will kill the fetus by shutting off its blood supply. This Catholic moralists concede is permissible since the fetus has not been directly attacked but dies as a secondary effect of a therapeutic procedure to save life. The fetus must, in such instances, be immediately baptized no matter how young and undeveloped.

Since operative removal of the product of ectopic gestation becomes more and more formidable as the pregnancy advances, accepted obstetrical practice will not delay for the growth of the child to a stage where it can live outside the mother's body, but demands operative removal as early as possible.

Moral Precepts in Surgical Destruction of the Embryo. Similar moral precepts are taught by the Roman Church in the contemplation of that harrowing dilemma of medical science, the removal of a living fetus by *morcellement* to protect the life of the mother in delivery. Under the Catholic ban come all operations which reduce the bulk of

the child so that it may be delivered through the birth canal of the mother, even though in the judgment of the surgeon the operation is the only one by which the life of the mother can be preserved.

An innocent fetus an hour old may not be directly killed to save the lives of all the mothers in the world. . . . It is a good deed to save a mother's life; but such saving by killing an innocent human being ceases to be good and becomes indescribably evil.

These words of Dr. O'Malley epitomize the Catholic doctrine respecting induced abortion and destructive operations upon the unborn living child.

The attitude of the majority of obstetrical authorities regarding *morcellement* to save the maternal life contradicts the Catholic viewpoint. If we consider the matter from a purely medical aspect, the conflict of choice between the life of the child and the life of the mother presents itself as follows: A physician may not wantonly destroy human life but must do all he can to preserve it. If the physical indications point to a doubtful recovery of the mother, if birth is effected by opening her abdomen in cesarian section, science holds that the physician causes the mother's death unless he employs the method most certain to save her.

Medical science fully countenances destruction of the fetus to save the maternal life, but will take every means to avoid the necessity of its employment. As an English obstetrical authority, Dr. John S. Fairbairn, has summarized:

Destructive operations are the failures of midwifery practice, and their disappearance is one of the criteria of good midwifery. . . . The destruction of a living and normal foetus ought to be a very rare event, but the hard-and-fast rule that has been laid down by some that it should never be done is one that if observed absolutely would often result in bad practice.

The American obstetrical authority, Dr. De Lee, has counseled:

Every hospital should have a complete set of destructive instruments. They are, in effect, constructive. Often, for want of them, or a man skillful enough to use them, cesarian section is performed. As these cases are always the protracted, the neglected, the botched, the infected labors, the mortality of the mothers is frightful.

But he further adjures:

After craniotomy it is the accoucheur's bounden duty to warn the family that the next labor should be so conducted that a child-life saving operation may be done. A second craniotomy is criminal.

Newer Methods Abolish the Dilemma. As Dr. De Lee advises, the newer methods of cesarian section give promise of bringing the necessity for destructive operations upon the living unborn child almost to the vanishing point. In view of the fact that under present methods the danger to the life of the mother in cesarian section is very slight, French obstetricians have claimed that killing the fetus is under no circumstances permissible and the parturient woman should be narcotized even against her will and the cesarian section performed. This, however, is not the consensus, and the right to force a parturient woman to abdominal section is now generally denied.

Do unto Others as You Would Have Them Do unto You. How shall the physician choose whether the life of the woman is to be saved by destruction of the unborn child or the life of the child is to be assured through cesarian section. Since medical authorities are by no means in complete accord in instances of conflict whether cesarian section is unconditionally contraindicated and a mutilating operation upon the child unconditionally indicated, the high responsibility of the decision will demand of the physician an exceedingly courageous stand in proffering his

advice to a doubtful and sorrowing family. As Dr. De Lee has suggested, the family will usually rely on his judgment, and "he will be immensely aided and comforted by adherence to the Golden Rule."

From the Standpoint of the Law. Juristically considered, the solution of the physician's conflict is to be sought in the liberty that the laws of all civilized nations accord the mother, or, if she be unconscious, her relatives. From a moral standpoint, too, the obstetrician should be governed essentially by the will of the mother or her relatives. If she is governed by heroism to such an extent that her conscience directs her to take the risk of a cesarian section which the physician believes she cannot possibly survive, he should abstain from any surgical intervention. At all events he may not remove the child in *morcellement* from the mother's uterus against her will.

Obviously, if a Catholic physician is attending a woman of another faith and a situation arises wherein a choice must be made between the life of the mother and that of her unborn child, he will respect her privilege to choose but at the same time decline to commit the destructive act upon the fetus which he regards as a form of murder. Under the circumstances, there is generally nothing for him to do but to retire from the case. His conscience will not allow him to be guilty of a sin of commission.

On the other hand, when the mother is a devout Catholic but the attending physician does not hold the same views, he must remember that it is his duty to explain the facts and probabilities but *her* privilege to decide whether or not she chooses to risk or sacrifice her life in the interest of the unborn child. If her verdict is to make a sacrifice which he thinks may well result in her death, he likewise should withdraw from the case. Otherwise, in the light of his own conscience, he will forever after feel that he has contributed to the murder of a woman whose life might

have been saved, that he has been guilty of a sin of omission.

Which shall survive, mother or unborn child? In this awful emergency, the art and science of obstetrics can but serve as the instrument to carry out the mandate of the conscience, by whatever faith it may be dictated.

Chapter XX

MENTAL UNFORTUNATES

How should they be treated?

FOR centuries there has been a distinct difference in the prevailing attitude toward *physical* illness and *mental* illness. Even today many people do not seem to realize that insanity and other mental troubles are a form of illness. They regard the insane and feeble-minded as "queer" and as objects of ridicule.

Present Attitude Survives from Middle Ages. The attitude of the general public is a survival of treatment of the insane since the dawn of history and particularly during the Middle Ages. The medieval Christians built many hospitals and admitted all those who were physically ill. But they excluded the insane.

Saints or Devils. When their insanity followed the path of religious enthusiasm, as insanity often does, they were frequently regarded as saints and treated with great respect. The mildly insane wandered homeless about the country or were cared for at religious shrines.

On the contrary, those insane who were abusive or maudlin were supposed to be possessed by devils. If these devils failed to yield to moral or spiritual agencies, the

unfortunate victims were chained in prisons and mad-houses.

Here they lay, unclothed and poorly fed, until they died of exposure and neglect. Often torture and the cruelest form of punishment were employed. Unlike the physically ill, they received no treatment or solicitous care, only a beating when their cries became annoying.

Slowly there grew to be a distinction between criminals and the insane, and at length the two classes were separated.

Bedlam. In 1547 an insane asylum was established in the hospital of St. Mary of Bethlehem in London. The name was then abbreviated to Bedlam and on account of the terrible conditions existing there, this term acquired its present significance. Bedlam was one of the popular sights of London during the eighteenth century. Here, and at other asylums, the insane were confined in cages and exhibited to visitors on payment of a small fee.

Pinel. In 1792 Pinel struck the shackles from the lunatics in the Salpêtrière and Bicêtre of Paris and endeavored to make his countrymen realize the horrible injustice done to these suffering unfortunates. In spite of his efforts they were still treated brutally. Not until 1838 were they transferred from prisons and madhouses to asylums especially constructed for their care.

The Lunatic's Tower. Even the first part of the nineteenth century saw little progress from the brutal treatment of the Middle Ages. Jealousy, laziness and self-abuse were thought to be the causes of insanity. In the Lunatic's Tower of Vienna the patients were exhibited to the public like animals in a menagerie. The Tower was not closed until 1853.

Later, although the insane were not treated as cruelly as in previous centuries, they were still locked in damp dungeons, confined with chains, bled excessively and dosed with drugs. They were bullied into submission and obedi-

ence, as it was still thought that they were wilfully obstinate and destructive. Their keepers believed that this procedure would help relieve the insanity.

Long Struggle for Humane Treatment. No noticeable advance in the scientific and humane treatment of the insane was made until the middle of the last century. Then asylums for confinement of the insane began to change to hospitals. A later development has been specialization in treatment: hospitals for the chronic insane, for idiots, for feeble-minded and epileptics.

Yet only fifteen years ago mentally sick men and women were cared for by untrained keepers, restrained by strait-jackets and confined in damp, miserable quarters. In general, people were indifferent to the unfortunate victims of mental illness and hostile to any change which would mean increased expense to the state.

The early concepts of insanity and the insane have persisted in the minds of the general public even until today. This is probably because the medical and psychiatric diagnosis of insanity is as yet uncertain and regarded with lack of confidence by the profession and laity alike. In present-day murder trials this uncertainty is clearly seen when eminent psychiatrists offer before the court opinions which are diametrically opposed. H. W. Haggard, M.D., in "Devils, Drugs, and Doctors" wrote:

If the question were the diagnosis of syphilis or typhoid fever instead of insanity there could be no difference of opinion, for the diagnosis would be positive. Yet thirty years ago the diagnoses of typhoid and syphilis were open to the same uncertainties as is the diagnosis of insanity today.

"*A mind diseased.*" Shakespeare anticipated modern medical knowledge by nearly a century when he called insanity "a mind diseased." Even today, psychiatrists are largely concerned with studying and classifying the symptoms of insanity rather than treating the particular form

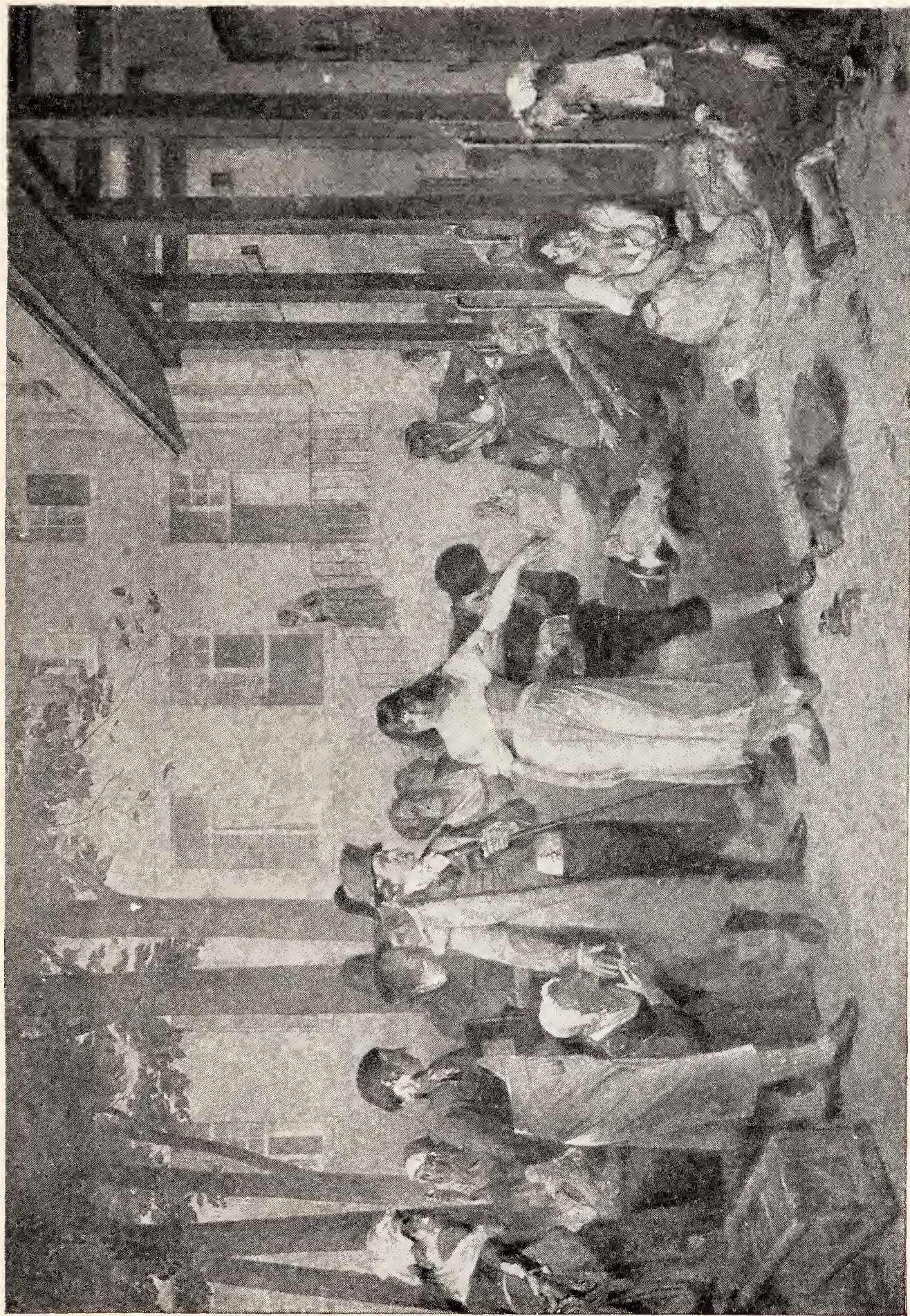


FIG. 16. PINEL LOOSING THE CHAINS OF THE INSANE.



FIG. 17. HIDEYO NOGUCHI.

of insanity after it is classified. Yet when a mind, through its derangement, fails to enable its possessor to adapt himself to his environment, he requires definite treatment just as much as one who is physically ill.

Paresis is the only kind of insanity for which there is known to be a specific treatment. In 1913, Noguchi, of the Rockefeller Institute, proved beyond question that the spirochetes of syphilis cause paresis. In some of our larger cities venereal clinics have been established where syphilitics may obtain treatment free or at a fee. This is the only infectious disease which is treated in special clinics.

Today mental illness is considered by the medical profession as important as physical illness. This problem of mental illness is increasingly grave, too, for in addition to thousands of insane, there are many thousands more of feeble-minded and other borderline cases.

Mental Ills Increase with Civilization. As life and civilization become more complex, adaptation becomes more difficult and mental troubles more prevalent. They are caused by mental stress, overwork, severe shocks, injuries, bodily diseases and toxic poisons. The insane are found more often in the congested cities where the struggle for existence is greatest. Here, too, alcoholism and venereal disease are far more common.

While physical disease and the general death rate are decreasing, the number of insane in institutions is much larger with each succeeding census. From 1870 to 1923 the number of insane patients in institutions increased from 97 to 245 for every 100,000 of the population.

In a plea for a fifty million dollar bond issue for state hospitals, Dr. Frederick W. Parsons, Commissioner of Mental Hygiene for New York State, predicted an increase of 10,000 in the population of state hospitals for the insane during the next five years. So rapidly has the number of the insane increased that some institutions are housing

more than ten times as many patients as they have decent accommodations for.

What Causes Insanity? When mental disorders were first scientifically studied, it was thought that organic changes in the brain caused insanity. The modern psychological school insists that they are the result of a conflict of instinctive forces with environment, and a failure of adjustment. They hold that mental symptoms are not a *disease* but reactions of the individual as he tries to meet the complex conditions of life.

Heredity Important. Heredity is still regarded as the most important single factor in the causation of mental disease. All of us must bear emotional shocks; all of us lose close relatives or dear friends; many of us are disappointed in love; yet relatively few of us become insane as a result of these griefs. Only the person who inherits an unstable nervous system or perhaps develops an inadequate personality by reason of faulty upbringing in childhood reacts to the rebuffs of fate by living in a world of his own imagination, apart from reality.

There is little room for optimism in the control of insanity until our civilization reaches such a point as to foster eugenic propagation, or at least to discourage dysgenic reproduction. Most of all, the mental unfortunate is the victim of a dysgenic union.

Lack of sleep and rest, lack of harmony in marital relationships, and excessive use of alcohol (especially illicit liquor) are other important factors which contribute to unhealthy mental conditions. All these factors are combining to cause a widespread mental nervousness which is slowly undermining the general health of the civilized world.

Treatment rather than Confinement. The change in viewpoint of the medical profession regarding mental diseases is now seen in the use of hospitals for *expert* treat-

ment of the insane, instead of institutions merely for their confinement.

Early Treatment Important. Dr. William Darrach, Dean of Columbia University Medical School, emphasized this change in attitude when he said in an address:

A quarter-century ago there were two main problems: First, to decide whether an individual was insane or not; and secondly, if so, to provide a place where he could be protected from society and society protected from him and his acts.

Today, although this second problem is even greater than ever because of the numbers of these pathetic people, the main problem is to recognize the early symptoms of mental disorder, to ascertain the causes, and to re-establish normal adjustment.

Psychiatry is leaving its former isolated position and infiltrating all other branches of medicine. It is being welcomed with open arms by practitioners in those fields who have recognized that their patients are only too often mentally as well as physically ill and require treatments for both conditions.

In reality, *insanity* is a legal and social term, not medical. It signifies more or less severe unsoundness of mind which exhibits itself in socially inefficient conduct. So far as legal responsibility for crime is concerned, insanity implies a deranged mental condition such as deprives a person of the capacity to comprehend the nature and consequences of a particular deed.

Modern Hospitals for the Insane. Today when more humane and scientific treatment of the insane is practiced, there is a tendency away from huge institutions to small hospitals near their homes. In modern hospitals, physical restraint is no longer employed. Chains, strait-jackets, covered cribs and wristlets have been banished. In their place are pleasant single rooms, where possible, and cheery living and dining rooms. There are clinical and pathological laboratories, providing improved methods of treatment. Dietetics, physical culture, hydrotherapy and allevi-

ating drugs are all used to improve, if possible, the physical and mental condition of the unfortunate sufferers.

Germany provides the most nearly ideal treatment for her insane. For the acutely insane she equips small hospitals in all cities of more than 50,000 inhabitants; for the chronic insane, rural colonies near the great cities. These colonies resemble a farming hamlet or agricultural community. They have no barracks, corridors or pavilions like large institutions. Yet the inmates are all under medical supervision, in which a research laboratory plays an important part.

Such colonies do a great deal in changing the public attitude toward insanity, for they carry on treatment with the most humane and scientific methods. Unlike the asylums of former days, they are not regarded as places of confinement for the incurable but as hospitals where the percentage of recoveries is much larger than in old-fashioned asylums.

England. During the World War the British public came to a realization that many mental troubles, particularly in their early stages, can be treated successfully. No soldier was sent to an asylum unless he was proved to be suffering from an incurable mental disease. Often a probation period of twelve months was required before the disease was pronounced incurable.

The Maudsley Hospital. So successful were hospital methods in the early treatment of insanity that the London County Council built, through the generosity of Dr. Henry Maudsley, the Maudsley Hospital for the study and treatment of mental diseases in their incipient and curable stage. This hospital contains beds for 150 patients, a qualified staff of medical officers and an out-patients' department. So highly are its methods valued that the London County Council now requires all officers applying for senior appointments to possess a diploma of psychological medicine.

At the Maudsley Hospital, the charges vary according to the means of the patient. Nor do patients object to coming to this hospital for fear they may become permanent inmates. All patients are voluntary and not committed.

Most general hospitals in London have special outpatient departments for the early treatment of mental diseases, and are endeavoring to dovetail their methods with those of mental institutions.

In this country, treatment of mental diseases ranges from the most modern equipment and methods to very inadequate provisions. In certain states police officers and the jail are still the intermediary stations between the home and the state hospital. Only a few years ago a young man who suddenly became insane in one of our southwestern states and attempted to dive into a dry pool was imprisoned in the local jail until his mother traveled all the way from New York to obtain his release. Some cities provide reception hospitals for patients before entrance to state institutions.

For the ideal, and probably the ultimate care of mental patients, reception and treatment hospitals should be built as special divisions of every small community hospital, so that the patients need not be removed too far from their homes. There are many patients, too, who would do better outside of cities in colonies for protracted care. There are still others who will make the greatest improvement outside of institutions.

Much progress in research and in preventive and therapeutic work is being made by the National Committee for Mental Hygiene, by psychiatric institutes, clinics and training schools. Any treatment of insanity or feeble-mindedness, however, must include a comprehensive study of the individual, his personal, family and racial history, his environment, and his physical and mental processes.

Feeble-minded and Psychopathic. Even more serious today is the problem of the feeble-minded and borderline

cases, for they are far more numerous and receive less attention than the insane. *Feeble-mindedness* is used to designate all degrees of arrested development or imperfect mental development. Idiots are so defective that their mental development never exceeds that of a child of two years. Imbeciles do not develop mentally beyond the capacity of a normal seven-year-old child. Morons never exceed the mental development of a normal child of twelve years.

Primitive peoples and the ancients usually destroyed their mentally defective children. It was only at the end of the sixteenth century that they were given any sympathy and attention. Not until the end of the nineteenth century was any extensive effort made to care for these cases.

Educating Defectives. In early institutions for the care of the feeble-minded, attempts were made to educate and cure the idiot. Experience proved, however, that there are large numbers of idiots and imbeciles who are incapable of any education. It is now known that the utmost that can be done for the idiot is to train him to make known his physical wants and to eat less like an animal. The lower grade of imbecile may be trained to help himself a little; the higher grade, to much useful work if he is carefully supervised. If the low-grade moron's training is begun very early, he may succeed in supporting himself outside of an institution. The high-grade moron may fare surprisingly well, carrying out satisfactorily tasks that do not require a high degree of intellectual prowess. However, when emergencies arise, he is more likely to be influenced by his emotions than by reason.

For a long time it was believed that fevers, head injuries, falls, blows and children's diseases caused idiocy and feeble-mindedness. But careful studies now seem to indicate that at least two-thirds of all feeble-mindedness is inherited, either from the parents or their antecedents.

In 1923 there were over 50,000 persons in institutions

for the feeble-minded. About one-half of these are imbeciles, one-sixth idiots and one-third morons. One per cent of the population need institutional care, unless the public schools can arrange to give proper training to the moron.

Psychological study and training at various institutions has resulted in a better understanding of the abilities and handicaps of the different grades of the feeble-minded. This has made it possible to put their education and training on a more scientific basis.

Feeble-minded persons must always be regarded as irresponsible children, no matter how old they are in years. They cannot understand abstract or moral principles; and as they cannot apply them, they should not be reprimanded for their mistakes or their moral shortcomings. Much more can be accomplished by encouragement and praise of all their efforts. Many of the feeble-minded can do useful manual work and so help pay the cost of their maintenance in the institutions where they live. Generally they are much happier in institutions with others of their own mental age, for here they are not constantly impressed with a sense of their own inferiority.

Feeble-mindedness, Crime and Immorality. The thousands of feeble-minded persons who are not in institutions are a social, moral and economic problem. Many confirmed inebriates, criminals, prostitutes and paupers are found, on examination, to be feeble-minded; as a matter of fact, from a third to two-thirds of the prostitutes in our cities are said to be feeble-minded.

Unfortunately sexual precocity and moral and mental degeneracy often go hand in hand. This is frequently the case with unmarried mothers in their early teens.

Helen's Unfortunate Inheritance. Take the case of Helen, who was an excellent dancer before she was twelve years old. She appeared frequently in public and received a great deal of attention from older people. At fifteen, she

was a mother without a husband, and at sixteen she had an illegal operation. Though vivacious and entertaining, she had failed at school. At twelve she had matured sexually but had remained a young child mentally and morally.

Helen was born of insane and alcoholic parents. She herself can never be reformed and will doubtless continue to bear children mentally defective like herself.

Both the insane and the feeble-minded are frequently found in our prisons. About 265,000 of these insane are confined in institutions, but many thousands more are free, both to commit various crimes and to reproduce potential criminals and helpless creatures who will be a heavy burden to coming generations.

The victims of *dementia praecox* are responsible for many cold-blooded murders. This type of criminal will take life without the quiver of an eyelash. He will listen to his own death sentence with utter indifference, for his emotions are dead. Thousands of patients in and outside our state hospitals may not have criminal tendencies but are emotionally dead.

The sufferer from *manic-depressive insanity* is also the product of defective stock. At times his emotions are dead; at others, they run away with him.

Hereditary Taint. Many crimes are committed by persons with *dementia praecox* or *manic-depressive insanity*. Often the accused is adjudged legally sane, although he is undoubtedly a mental defective; for law and medicine view insanity and mental disease differently. It is important to note, however, that 90 per cent of patients with *dementia praecox* and a very large percentage of those with *manic-depressive insanity* suffer from an hereditary taint. It is not fair to the unfortunate individual nor to society that such a child should ever be born.

There is only one effective way of checking the crime wave, and that is by limiting the propagation of defective

stock. Schaveighofer strikingly shows the influence of heredity in the following case from his experience.

A normal woman married a normal man. By this marriage there were three children, sound physically and mentally. After the husband's death the woman married a drunkard and bore him three children. One became a drunkard, another was a physical and mental weakling, and the third was a drunkard and social degenerate.

When she took a third husband, this time a healthy man, the woman again bore sound, healthy children.

Poverty and Mental Defectiveness. Our ancestors were indeed mistaken when they said that "all men are created *free and equal*." For many unfortunate persons inherit poverty, in addition to criminal tendencies, insanity, epilepsy and feeble-mindedness. Is it strange, then, that mental and physical weaklings born of defective parents into these wretched homes succumb to the struggle for existence early in life and eventually find themselves in the poorhouse? According to the census of 1910, 64 per cent of the paupers in our institutions were afflicted with some serious physical or mental defect.

Inherited Handicaps. In various communities today, there are thousands of psychopathic persons whose mental handicaps are unrecognized and misunderstood. Their misdeeds are generally regarded as wilful by the public; only the psychiatrist and the social worker recognize their inability to lead normal, useful lives because of their inherited handicaps. If these unfortunate people are to be aided to harmless and reasonably happy and useful lives, their handicaps must be recognized by their families and neighbors. Each one should be studied individually and treated as a person who is ill, not erring. All students of the mind recognize that it is impossible to separate the mind from the body, that they are so interrelated that it is often necessary to treat one through special agencies applied to the other.

Mental Hygiene Clinics. A great deal of constructive work is being done by the mental hygiene clinics in some of our cities. During the last four months of 1929, for instance, 4200 patients were treated in the mental hygiene clinic of the Post-Graduate Hospital in New York City. Among those treated were youths convicted in the Court of General Sessions and remanded for examination before sentence was passed.

It is the purpose of this clinic to deal with neuroses and borderline conditions which are such a heavy burden both to individuals and to society. Not one or two symptoms, but the whole personality of each patient is studied and treated at this clinic after a study has been made of his background.

Mental Disorders Widespread. Much work to aid the mentally handicapped is being carried on by the *Brooklyn Bureau of Charities*, an organization supported by persons of all faiths. Psychiatrists and social workers of this Bureau find innumerable difficulties "deeper-lying than bodily ailments." During 1929 serious mental disorders were found in 34 per cent of the families among which the Bureau worked, sometimes several types in one family. In addition, there are many more cases of mental maladjustment and friction that bring on family troubles and the separation of husband and wife. Says the Bureau:

To get a family going again on an even keel and keep it headed toward success and happiness the worker's knowledge has to go much deeper than the surface needs. The Mental Hygiene Clinic exists to help the district visitors understand more clearly the underlying causes of their clients' difficulties—often deep-seated emotional and mental ills that go back to very early life. During 1929 the clinic studied from this point of view 319 people.

For example, some man of good intelligence never seems to function well. There was some blocking of his energies so that he never had the force to do, or be, anything. Another client, driven by some inner compulsion would escape from his

burdens through drink. With still another venereal infection not recognized, or treated by quacks, had ended in disease of the nervous system, showing itself to relatives and friends as excessive irritability or ideas of grandeur. The psychiatrist at the clinic knows the symptoms and the progress of mental and emotional ills. His sympathetic and understanding approach helps to relieve the patient of many of his burdens. Frequently he is able to arrange for specific treatment which will completely cure the patient. Sometimes the interviews with the psychiatrist do not complete the treatment and the social worker must continue. With the added insight given by the psychiatrist the social worker can plan more wisely, and bring about a better adjustment between the patient and his environment.

Hebrew organizations in this country are doing admirable and extensive work with those of their faith who are mentally ill or defective. In our large cities their psychological and psychiatric clinics are treating many cases of behavior maladjustment, including Big Brother and Big Sister work, parole work among delinquent boys and girls, men and women from state and city penal and correctional institutions.

Psychiatric Work of Hebrew Charities. In 1921 the United Hebrew Charities found mental disturbances so numerous and difficult of understanding and treatment that they engaged the services of a trained psychiatric worker. Through her the staff was aided in recognizing those problems in their early stages and in utilizing municipal resources for their treatment. For some time this work was handicapped by lack of clinical staffs speaking foreign languages.

In 1924 a psychiatrist was added to the staff of the Mental Hygiene Department. Through his clinics and the consultant services of the department, acute mental troubles have received more and more attention and assistance; and the society has been enabled to understand and aid in those situations arising in the families or in the lives of

individuals which have their origin in less obvious mental disturbances.

Public Understanding Needed. With the enormous increase in mental illness and insanity, the splendid efforts of psychiatrists and social workers need to be supplemented by the education of the general public to an understanding of the problem. It seems to me that clergymen of various religious faiths are in a unique position to assist here. They address audiences every week in their places of worship and are in a position to bring authoritative advice to large numbers of serious-minded people.

How Religion Can Help. In their addresses they can assist in teaching the newer view that the insane and mentally defective are *ill*, not to be regarded as "queer" and objects of ridicule. The information should also be disseminated that many kinds of mental troubles are not hopeless, as so many people seem to think, and that prompt endeavors should be made to alleviate them in their early stages.

Many adults may well be taught sympathy and understanding for the mentally ill and should, in turn, teach them to children. There are conceivably many times that a clergyman, when consulted by families in his parish, can urge upon them the need for treatment of mental illness of members of their families.

Clergymen, too, are in a position to advise against the marriage of mentally diseased or feeble-minded persons. For their best interests, as well as those of the community, they should refuse to marry the mentally deranged or feeble-minded. By personal and public advice, they and well-informed laymen can work with the medical profession in educating the public to the literal truth of the Biblical teaching that the sins of the fathers are visited upon the children, and that this maxim is perhaps most frequently and tragically illustrated in the offspring of mental defectives.

Certain economists and physicians have said that the philanthropic attitude of modern society toward the mentally diseased is not entirely praiseworthy. Today thousands of physical and mental wrecks are carefully tended for years, on funds raised through taxation of the public. The criminal with tainted inheritance regains his freedom and becomes the father of potential criminals. Defectives are painfully educated, when there are not enough schools available for normal children.

Limiting Propagation by Mental Defectives. Dr. August Forel, Director of the Zurich Insane Asylum, says that we gradually weaken the healthy members of society by spending so much of our time in salvaging human ruins. He believes it would be far more humane to prevent reproduction by the unfit than to build and maintain a constantly larger number of asylums, hospitals and reformatories.

With conditions of modern life causing such a rapid increase in the mentally diseased, I believe we should take a position midway between these opposing viewpoints. Our efforts to better the lot of the insane, feeble-minded and psychopathic should not be relaxed. On the other hand, much can and should be done also to arouse public opinion against marriage and propagation by these unfortunates. If the United States would segregate and care for the insane, feeble-minded, criminally insane and epileptics and make it impossible for them to reproduce, it is said that over a period of years the cost of their maintenance would be far less.

Mentally Diseased Should not Marry. To strike at the root of this trouble and decrease reproduction by the mentally diseased, the public must be educated and the individual conscience and sense of responsibility aroused. The marriage of members of two insane, feeble-minded, alcoholic or criminal families perpetuates such characteristics in intensified form. Therefore an active disapproval of

dysgenic marriages is necessary; not merely a passive acceptance of present conditions.

Both clergymen and laymen can assist the medical profession in their demand for the protection of marriage, the requirement of a health certificate and inquiry into family histories.

Many eugenic suggestions have been ridiculed by the general public; but scientists, economists and physicians all agree that any lowering in the tremendous number of the insane and mentally defective is practically impossible unless some heed is given to eugenic principles.

Undoubtedly eugenic measures would be the most effective means of diminishing crime, insanity, illness and poverty. Though the education of the public to an active approval of marriages and large families among superior persons may be centuries away, it may be possible to develop a public opinion against reproduction by defectives.

Better Child Training Needed. Psychiatrists, psychologists and social workers are also emphasizing the vital need for the better training of children in their earliest years. Severe inhibitions inculcated during formative years frequently result in mental quirks when adult life is reached.

On the other hand, the child must be taught to control his emotions with his intelligence or he will be unable to adjust himself mentally and physically when he grows up. "Most of the trouble in the world is caused by men and women who have developed physically but remained as children emotionally," warns Dr. Joseph Jastrow, eminent psychologist.

Preventive Work in Childhood. Both clergymen and the more intelligent laymen can do a great deal to bring the public to a realization that childhood is the strategic time for work against mental disease which may lead to delinquency, neurosis or crime. Preventive work should begin before maladjusted or mentally defective children reach the court clinics.

Much of the misery now due to mental sickness can be eliminated by proper early training of children, by close observation and treatment of school children by competent psychiatrists, and by arousing an active public disapproval of dysgenic marriages. The important point is to attack the beginning of mental ailments wherever they appear in a community. With the tremendous increase in the number of our insane each year, here is an insistent challenge for closer cooperation between medicine and religion.

Chapter XXI

THE EUTHANASIA PROBLEM

Has the incurable a right to relief from suffering?

A PHYSICIAN'S highest duty is to prolong human life, not to shorten it. From time to time, however, both he and the families of his patients are confronted with the problem of euthanasia—the practice, as an act of mercy, of painlessly hastening the death of, or putting to death persons suffering from incurable disease or excruciating and hopeless injuries.

Two Phases of the Problem. Has the incurable a right to relief from suffering? This problem has two distinct divisions. In the first place, has the physician a right to employ remedies which will bring relief to persons who are seriously ill or dying, but which will probably hasten death? In the second place, has he a moral right actually to give painless death to incurables who are tormented with suffering?

From the scientific viewpoint, the first phase of this problem involves the same question as the employment of narcotic remedies. Are they ever permissible, inasmuch as they are never entirely free from injurious collateral action? Therapy, however, must often be conducted in accordance with the principle that the lesser of two evils

should be chosen. When a sick person is unable to sleep or to take food on account of pain, it is certainly better to give him pain-relieving remedies than to permit him to suffer and waste away from weakness and exhaustion.

As an Aid to Therapy. The employment of pain-relieving remedies is not to be looked upon as therapy in the strict sense of the word, inasmuch as they exert no influence upon the pathological process itself. They do not cure; they only relieve the symptoms. This relief, however, aids the therapeutic endeavors by sustaining the patient's strength and nutrition, and thus indirectly stimulates the process of recovery. As compared with the far greater evil, the exhaustion caused by pain and restlessness, the pernicious collateral influence of narcotic remedies hardly deserves consideration. Moreover, a conscientious physician will always guard against any misuse of narcotics and give the organism time and opportunity to counteract their noxious accessory actions, which in reality are no different from those caused by many other remedies.

Pain-stilling Remedies Indispensable. Modern medicine possesses a large number of pain-stilling remedies which, acting locally, do not benumb the sensorium and therefore annul the perception of pain without at all interfering with general consciousness. It is the aim of modern therapy, wherever possible, to employ only these local anesthetizing measures. When, if ever, our therapeutic progress reaches a point at which we shall be in possession of a specific curative remedy for every disease, one which will immediately relieve the cause of the disorder and at the same time annul the pain and all other distress that go with it, then, and not until then, will pain-stilling remedies no longer be needed. Meanwhile, unless we adopt the absurd view that God wishes his creatures to suffer pain, they are indispensable.

Those in favor of euthanasia maintain that if disease or

injuries are "incurable," the physician can only prolong the agony. "That is useless," they say, "and if I were that person, I would prefer to die." For the apparently incurable and hopelessly sick or the dying, there can be no doubt that the administration of narcotic remedies will ease the end and will also hasten it.

Exact Prognosis Impossible. In this connection, an erroneous impression of the general public has had great influence in the discussion of this question. Many people believe that a physician can tell definitely whether the sick person will die and approximately when death will occur. There is nothing more uncertain in medicine than exact prognosis, or definitely estimating the patient's chances for recovery.

The inexplicable "will to live" and unforeseen factors in illness have brought many apparently dying persons back to health. Any physician can recall instances in which a number of physicians in consultation have agreed that, so far as medical science could tell them, the patient had no chance for recovery. One very young physician, to my knowledge, even went so far as to sign a death certificate in advance, on the supposition that the patient would not survive the night. This was a foolish and reprehensible act. He was starting on an extended trip and "felt certain" of his prognosis. But, like Mark Twain, this patient evidently felt that the reports of his death had been greatly exaggerated, for he recovered completely, but tried to collect his life insurance by presenting the death certificate which his physician had signed.

"While There Is Life There Is Hope." It should always be remembered that "incurable and hopeless diseases" cannot be sharply defined. Nussbaum very properly says:

So long as breathing goes on, hope should never be entirely given up; for everything may go as it came and everything may return as it went. Old age only is incurable, and this becomes worse by one day each day. I know instances in which phy-

sicians had prematurely given up patients who under favorable surroundings, fresh air, physical and mental quiet, recovered completely and lived for many years.

On the other hand, there are injuries of such great severity that, according to our scientific knowledge, recovery is extremely improbable. The same is true of chronic diseases such as cancer and tuberculosis, when they are far advanced. Then the question must arise whether the employment of remedies that will induce a painless death may be sanctioned.

The moral phase of euthanasia: painlessly putting to death incurable sufferers whose natural end is not near, has aroused a storm of criticism and discussion whenever it has come before the public.

About five years ago a French girl shot and killed her sweetheart because he was suffering agonies from cancer. The jury acquitted her.

Is "Homicide from Pity" a Crime? More recently a young Englishman was brought before the courts of Paris because he had killed his mother, who was suffering intensely from cancer. He was acquitted by the jury, and many French writers expressed the opinion that they also would have acquitted him.

The Danger of Abuse. Another viewpoint is set forth by M. Georges Claretie, in the *Revue Internationale*, who calls euthanasia "a monstrosity." He says that "homicide from pity" covers a lot of unconscious egoism. Relatives cannot endure seeing the sick person in agony or hearing his cries. He adds that a person sick in bed rarely commits suicide even though very ill, but clings to life. It is obvious that, in the absence of extreme vigilance, euthanasia might well be used in the interest of the heirs rather than the sufferer. In such a case, those who expected to profit thereby might easily persuade the victim to choose death, because it is well known that the sick are frequently unable to exercise their best judgment. And in borderline

cases, where physicians might naturally disagree as to prognosis, it would not be difficult to find one or more doctors who would favor euthanasia.

But certainly under such circumstances euthanasia would be morally wrong, because it would be fostered primarily by the desire to expedite inheritance rather than to curtail suffering.

I know a physician who, in a case in which recovery was out of the question, decided after several expert consultations to perform an operation which would have the effect of prolonging life and also of relieving suffering. Without this operation, death was imminent and suffering severe. Because the patient was mentally incompetent, it was necessary to ask permission of the next of kin, who was a distant cousin.

To the doctor's astonishment, he received a telegram from an attorney advising him that the heir (!) absolutely forbade the operation as being too costly to the estate and would prosecute him if he performed it.

From the Sufferer's Viewpoint. On the other hand, some apparently incurable sufferers have urgently requested euthanasia to put an end to their agonies. In 1912 Sarah Harwis petitioned the legislature of New York State for relief from her suffering. Her petition stated that her case was regarded as incurable. Because of paralysis she could not move; her sufferings were horrible. Her physician had refused to end her life at her request. Even if he were in accord with her wish, the law would not have permitted him to do so. She sought from the legislature authorization that her doctor might put an end to her sufferings painlessly, as an act of charity. This unfortunate woman's petition aroused such a storm of criticism and discussion that the legislature shelved it and never voted on it.

In addition to the difficulty of exact prognosis, there is also that of abuse of the privilege of euthanasia. Nearly

thirty years ago a lawyer, in a talk before the New York Medical Association, pointed out the possible abuses which might take place under such a law. To guard against such abuses he suggested that the government name a commission of four physicians, the president of the local hygiene committee and two laymen of high standing.

Suggested Laws Fail to Pass. A few years later a physician brought before the Iowa state legislature a law proposing that any person suffering intensely from an "incurable" infirmity might be permitted to take his own life by means of drugs.

In Germany, too, such bills have been presented but not passed. It was suggested that the sufferer's right to euthanasia be established by a tribunal, at his request. If examination convinced the tribunal that he had no hope of recovery, then they would give him the right to be put out of misery, and the person administering the drug could not be prosecuted. However, anyone putting a sufferer to death without the authorization of the tribunal was to be liable to prosecution.

Binet-Sangle has proposed more recently that euthanasia be entrusted to *euthanasists*; and in 1920 Binding and Hoche also suggested relief through euthanasia for those whose death is not imminent but who are apparently *incurable*. Many mental patients, confined in institutions for years as hopelessly insane, come under this class. Life is a burden to them, as well as to others. Yet it must be remembered that many such patients have recovered to the extent of again being able to take their places in society. They may even recover so completely that only to a psychiatrist will their abnormalities be evident.

Possibility of Error in Judgment. There are also those persons who have lost one or more of their senses and on return to consciousness will lead a most miserable existence. Such persons, according to Binding and Hoche,

should have the right to euthanasia decided by a tribunal. But suppose the tribunal should commit an error of judgment? There lies the great difficulty.

Euthanasia Laws in Foreign Countries. Laws proposing euthanasia have met with greater favor in foreign countries than here. Several South American republics permit the release from suffering of an apparently incurable person. The new Russian penal code has set its stamp of approval on "homicide by compassion committed through solicitation for the dying." The government, "through pity," shot 117 children suffering agonies from a horrible disease.

Euthanasia, in the belief of many people, should be confined to those instances in which, the preservation of life being out of the question, the sufferer himself expresses the desire for death. The request, it is held, must come from the patient; mere assent should not suffice. Still less should the physician be permitted to administer a fatal dose of a strong narcotic without the patient's knowledge. Many patients, hopelessly sick, by no means look upon death as a relief and a release. They would rather endure the most intense torture than lose a moment of their wretched existence. In some instances this may be heroism; in others, it is cowardice.

Endurance Fortifies Character. Capellman attributes the increasing enervation and enfeeblement of the present generation to the undue readiness of physicians to administer anodynes and narcotics. I do not entirely agree with him. Certainly the physician should endeavor so to train his patients that they will be more resistive to pain. A person's force of will should enable him not only to suffer pain with fortitude but also to face death without fear.

But what about pains that have reached an intensity that is insupportable? What if the last gleam of hope of recovery has faded? What if we must fear that the patient in despair will commit suicide in order to put an end to

his sufferings? In such instances it seems to me to be an act of mercy to terminate the state of appalling decay, to curtail a human life that is approaching its end in spite of all effort.

Euthanasia Merciful in Insupportable Pain. When we think of the dreadful wounds received in battle, should it not be considered justifiable for a soldier to put out of misery a comrade who, having received a fatal injury, cannot live and cannot die, and is imploring relief? In industry we often see injuries quite as severe as those produced in war by grenades, bullets and bayonets, injuries so horrible that only a hard sense of duty can condemn the person who, by means of euthanasia, puts an end to the suffering they produce.

Pain not Atonement for Sin. I do not by any means agree with those writers on pastoral medicine who would have us look upon pain as discipline and atonement for sin. It is not only wicked and immoral persons who are afflicted with physical sufferings. Even people who are morally beyond reproach become the victims of disease and must endure physical pain. I do admit, however, that the endurance of pain serves to fortify the character and for this reason alone, if for no other, the physician should not be too free with the employment of pain-relieving remedies. No physician should go so far as to attempt to relieve all endurable suffering by the administration of anodynes or anesthetics.

Religious Objections. The physician must also take into consideration the fact that some religious persons may look upon euthanasia as a form of suicide. Self-destruction is severely condemned by both the Hebrew and Roman Catholic faiths; and if euthanasia is regarded as such by the persons concerned, then it is naturally out of the question. It should be sanctioned only when demanded by the patient himself. The latter, facing death, does not become a suicide because he has hastened his

end any more than the physician becomes an assassin through aiding him. On the contrary, it is my opinion that the latter accomplishes a merciful duty when he fulfills the agonized wish of a dying person.

Medical men have been called the greatest enemies of euthanasia. This is perhaps because they realize, as no one else can, what varied reactions the human organism can present under given circumstances. Yet in the presence of intense and prolonged suffering, there are many physicians who are prone to agree with Maeterlinck when he says, "There will arise a day in which Science will protest its error and will shorten our sufferings."

Chapter XXII

VIVISECTION FOR SCIENTIFIC ADVANCEMENT

EVERY branch of science has found that increased knowledge requires experiment and that reasoning alone is insufficient. So much of modern medicine and surgery, both therapeutic and preventive, is based on the results of animal experimentation that every serious-thinking person should have some knowledge of this subject.

In attempting to conquer human disease, scientists have nearly always carried out their experiments on lower animals. Most people agree that the testing of any hypothesis in medicine or surgery should be carried out in this way. The essence of vivisection, its *raison d'être*, is the fact that these experiments are conducted for the express purpose of advancing *medical* knowledge.

Vivisection: Its Meaning and Purpose. Vivisection, accurately defined, means cutting experiments on live animals. In its broader sense, the term has always included *all* experiments on animals: investigations on digestion, respiration, body temperature and the action of drugs. Though many of these experiments involved no cutting operation, they were classed as vivisection because performed on *living* animals.

Methods of Experiment. The actual fact, however, is that cutting experiments form only a small part of the total, in spite of the increased experimentation which has accompanied the greater pursuit of all branches of medical knowledge in recent years. According to Dr. W. L. Lazarus-Barlow, formerly professor of Experimental Pathology at London University, probably more than 90 per cent of so-called vivisection experiments consist of nothing more than the injection of a little fluid or solid tissue beneath the skin of a rat, mouse, guinea-pig or rabbit, preceded by the prick of a hypodermic needle. Rarely is the lurid picture painted by antivivisectionists justified by the facts.

In performing medical or surgical experiments, the same care and method of procedure are followed as with human beings. For the best results, conditions should be as similar as possible. The animals named in the preceding paragraph are those most used for inoculations without anesthetics. A small area of skin is shaved, the hypodermic needle is sterilized and the injection or vaccination carried out just as in medical practice.

Surgical operations on animals, such as removal of a gland or the establishment of a fistula, are performed under profound anesthesia and with strict regard for asepsis. Sterile instruments are used and the wound carefully closed and dressed after the operation. From human cases, we know that removal of a portion of the surface of the brain does not cause pain. And a fistula, after it is established, is not painful, for the internal organs are not sensitive like the skin.

Animal surgery has been of inestimable value to the progress of *human* surgery because with minor exceptions the methods and results are identical. Many of our best surgeons have perfected their technique by practicing first on animals. In this way they have acquired such a

high degree of skill in the conduct of difficult operations as to save many lives which might otherwise be lost.

Harvey's Dissections. Many of the most fundamental facts of modern physiology, pathology, bacteriology and therapeutics have been gained through animal experimentation. William Harvey, discoverer of the circulation of the blood, advanced, further than any contemporary, the existing knowledge of comparative anatomy of the heart and blood vessels, by a long series of dissections.

Rev. Stephen Hales, an Early Experimenter. Primary truths in arterial blood pressure were discovered by the English clergyman, the Reverend Stephen Hales, in an experiment performed on a horse. It is described as follows in the Reverend Hales' own words:

In December I caused a mare to be tied down alive on her back. Having laid open the left crural Artery about three inches from her belly, I inserted into it a brass Pipe, whose bore was one sixth of an inch in diameter; and to that, by means of another brass Pipe which was fitly adapted to it, I fixed a glass Tube, of nearly the same diameter, which was nine feet in length; Then untying the Ligature on the Artery, the blood rose in the Tube eight feet three inches perpendicular above the level of the left Ventricle of the heart: But it did not attain to its full height at once; it rushed up about half way in an instant, and afterwards gradually at each Pulse twelve, eight, six, four, two, and sometimes one inch: When it was at its full height, it would rise and fall at and after each Pulse two, three or four inches; and sometimes it would fall twelve or fourteen inches, and have there for a time the same Vibrations up and down at and after each Pulse, as it had when it was at its full height; to which it would rise again, after forty or fifty pulses.*

The Pro and Con of Vivisection. In spite of the fact that animal experimentation has been approved by many clergymen, scientists and other thinking people, there have been repeated and violent protests against its use for the advancement of medicine and surgery.

* Excerpted from "Human Physiology" by E. H. Starling, p. 759.

In England the antivivisectionists have formed a society and published a journal. Some of them demand the total abolition of animal experimentation, and others merely ask for its prohibition on dogs.

Father Tondorf Pleads for Research. In this country, too, a great many attempts have been made to prohibit experiments on animals. In 1919, when a prohibitory bill came up before the United States Senate, the Rev. Dr. Francis A. Tondorf, s.j., head of the physiology department in Georgetown University, pleaded the cause of medicine and surgery. Father Tondorf said in part:

The topic now under discussion presents two phases, to wit, the sentimental and the moral. The former, I take it, deserves little, if any, consideration, where human health and happiness are at stake. . . .

God has unquestionably placed the creatures of His hand under man's dominion that they may be of service to him in the prosecution of his necessary end. Accordingly he has an unequivocal right to the use of these creatures for any lawful purpose he sees fit. I insist on lawful purpose, the norm being that in this use man violates no obligation toward God, himself or his fellowmen. Pleadingly our friends, the antivivisectionists, bid us add a fourth condition, namely, that the animal's right be held sacred. I answer, as anyone familiar with the first principles of ethics must answer, an animal has no rights. A right is a moral power, and a moral power is resident only in a rational being. To invoke barnyard rights is to codify barnyard morals. . . .

A catalogue of our cruelties has been handed you. They all have their foundation in the pain we inflict. . . . But no one seems to touch a point which is of vital import right here, and that is whether the pain sense is as specialized in the brute as it is in man. The indications are all in the negative. Such the brute's position in the scale of anatomy. Such the postoperative behaviour which every experimenter cannot but have noticed, a behaviour indicating a minimum suffering. Such, finally, the ante and postoperative consequences to a lack of anticipation of pain, a factor which so tellingly exaggerates this sense in the human subject. In the light of the above it is

not hard to see that the tales of all our cruelties are but the wild fancies of prejudiced imaginations.

With the right to inflict pain on the animal established, and I might state that this we rarely do as most operations are done under an anesthetic, I ask to what extent this infliction is permissible. As far as is necessary. Nor am I of the mind that this is only a right but more a solemn obligation we men of the medical profession owe mankind.*

Fanatics and Moderates. The opponents of animal experimentation may be divided into two groups, the fanatics and the moderates. The former deny positively that any benefit can accrue to science from such means of investigation and maintain that nothing has been discovered through it that is at all beneficial to the human race. The moderates admit that medical progress is due in great part to animal experimentation. But they add that, since such progress has been attained at the expense of animal suffering, it has been too dearly bought. Consequently, they conclude, the animals should be spared and progress foregone. They also contend that animal experimentation injure the moral character of the operator.

Animals Legally Protected Against Cruelty. My answer to the moderate objectors is that in every well-ordered state the existing laws for the prevention of cruelty to animals are amply sufficient to hinder unwarranted and abusive animal experimentation. Under stringent British laws a license, plus one or more certificates, is necessary, according to the nature of the experiment. In the United States, a system of rules for the treatment of animals used in research was outlined by the American Medical Association in 1910. These rules have since been adopted by practically all institutions engaged in medical research. The responsibility for the character of experiments performed rests on the director of the laboratory.

Experimental Animals of No Value to Man. Moreover,

* Excerpted from "A Vindication of Vivisection," by Francis A. Tondorf, S.J., PH.D., pp. 89, 90.

animal experimentation is conducted to a very large extent upon animals that are either directly injurious to man or at least of no use to him, such as rats, mice, guinea-pigs, rabbits, etc. As these animals are narcotized whenever they are to be subjected to an operation that would cause them to suffer, there can be no question whatever of cruelty. Even admitting that the experiments do cause pain to the animals, such suffering is no greater than what the animals cause each other among themselves, and much less than the suffering which exists among human beings. If it is right for us to kill animals in order to nourish ourselves from their meat and cover our bodies with their skins, why should not we be permitted to sacrifice them for purposes that are infinitely more important and which cannot be attained by any other means?

Pasteur, Devout Catholic and Experimenter. Critics of animal experimentation have also contended that it injures the moral character of the operator. The great Pasteur, through animal experimentation, perfected sera which saved thousands of human beings from death by hydrophobia, and thousands of cattle from the fatal scourge, anthrax, and fowls from chicken cholera. Pasteur was a devout Catholic, known for his simplicity and great spirituality. He thought he was following "a law of peace, work and health, whose only aim is to deliver man from the calamities which beset him . . . that science, in obeying the law of humanity, will always labor to enlarge the frontiers of life."

If we were to renounce all scientific acquisitions that have been gained through animal suffering, then medicine, particularly surgery, would sink back to the status it occupied during the Middle Ages unless, of course, the physiological, pathological and therapeutic experiments to which animals have been exposed were to be performed directly upon human beings. The latter suggestion cannot for a moment be seriously considered.



FIG. 18. LOUIS PASTEUR.

Progress Impossible without Research. The only reply which need be made to the fanatic objectors is that their statements are malevolent or the result of ignorance, for the proper study of animal experimentation unfolds a story of scientific progress as fascinating as it is astounding. The fundamental principles of bacteriology leading to recent discoveries in the treatment and alleviation of disease and in modern aseptic surgery—all of these are partly or wholly due to animal experimentation.

Diphtheria Scourge of Childhood. Not so many years ago diphtheria was the scourge of childhood. In 1883, Klebs and Löffler identified the microorganism which is the exciting cause. Animals were immunized against this disease and diphtheria antitoxic serum developed. Before the introduction of antitoxin, one child out of every three died, according to figures from the hospitals of the London Metropolitan Asylums Boards. In 1926 the British Ministry of Health reported that only one diphtheritic child in twenty succumbed to this disease. Wr. W. W. Keen, in "Animal Experimentation and Medical Progress," says:

In those early days the only comfort we could give distracted mothers was that "it was God's will." Yes! Then possibly, it was God's will; but now, thank God, it is not his will. One might as well say that it is God's will that thousands die from smallpox when vaccination will protect them; that other thousands should die from typhoid fever when a pure water supply and the banishment of the fly will prevent it; that thousands of women should die from puerperal fever, when sterile hands and sterile instruments will save them!

The Conquest of Typhoid. As a result of Pasteur's researches on animal diseases and the similar work of Sir Almroth Wright, inoculation for typhoid and paratyphoid fevers was perfected. In the Spanish War nearly one-fifth of the entire army suffered from the disease.

In 1916, in the hostilities on the Mexican border, for

months there was not a single soldier ill with typhoid. In the World War, only 215 men from over four million in the United States Army and Navy died from this disease. These amazing benefits to human beings were made possible chiefly by experiments on animals. To the same source, we must also ascribe the discovery of various serological tests as a means of diagnosis.

Malaria and Reclamation. For years malaria was a scourge to men living in swampy, low, damp countries. Then it was discovered that malaria was transmitted by the mosquito. Later studies of malaria in man, and the preventive measures founded thereon, were based on a study of similar blood parasites in birds. This pointed out the need for reclamation of low, swampy land and the inauguration of better sanitary provisions. As a result large areas have been reclaimed and conserved for safe human habitation.

Stamping out the Great White Plague. Whatever success has been attained in stamping out tuberculosis, the Great White Plague, has in large measure been made possible through Koch's discovery of the bacillus of tuberculosis by his experiments on animals. In the same way was ascertained the importance of associated suppurative microorganisms in determining the type of disease. The use of tuberculin for the detection of tuberculous cows has enabled public health authorities to minimize the spread of this disease through consumption of the milk and flesh from infected animals. Success in combating tuberculosis has been one reason for the increase in the span of life during recent years.

Diabetes. Forty years ago, two German investigators discovered that surgical removal of the pancreas always led to fatal diabetes in dogs. Further experimental studies led to improvement in the dietetic control of diabetes in man. All this experimental work paved the way for the discovery of insulin by Banting in 1922. It is illuminat-

ing to note that Banting's epochal report to the medical profession was based on vivisection experiments on a dog whose pancreas he had removed and which he had protected from an excess of sugar and from diabetic coma and death by administering his pancreatic hormone, insulin. Surely this sacrifice of a dog was noble in its purpose, when we consider that it was a means to the end of providing an efficient treatment for the one million sufferers from diabetes in the United States.

Fatal Tetanus. Fifty years ago lockjaw or tetanus was both frequent and fatal; now it is almost a curiosity and rarely occurs except after neglected accidents. Nicolaier discovered the bacillus of lockjaw by examining the ground on which one of his patients had fallen. This was inoculated into animals and was found to produce the same disorder. Was not the sacrifice of a few rats justified since it has almost abolished lockjaw as a result of surgical operations and makes relief possible in other cases?

Spinal Meningitis. Animal experimentation by Drs. Flexner and Jobling, of the Rockefeller Institute, was alone responsible for the discovery of a serum against cerebrospinal meningitis. Previously medical science was practically helpless when confronted by this dread disease. Serum treatment has cut the mortality in cerebrospinal meningitis from 80 to 20 per cent. This treatment has undoubtedly saved many families from sorrow and actual deprivation. Does not such saving of human life justify the experiments on 125 animals?

Saving 20,000 Annually. In India every year 20,000 died from snake bites; yet Sir Lauder Brunton's animal experiments to discover an antidote for snake venom were stopped by stringent British laws. Since then the same method has been used to perfect antivenin, a protective serum against snake bites.

The War against Syphilis. Antivivisectionists have continually advocated clinical observation as a substitute for

animal experimentation. For four hundred years investigators had failed in their efforts to alleviate suffering from syphilis, many of whose victims were innocent women and children. In Russia, for instance, entire villages of syphilitic children have been found. In 1903 Metchnikoff first inoculated the disease in apes. In 1905 the germ of syphilis was discovered through animal experimentation. Five years later Ehrlich discovered "606" or salvarsan, after persistent experiments had proved that 605 other remedies were ineffective or dangerous. Thus in less than a decade animal experimentation accomplished more toward relieving human suffering from syphilis than clinical observation had in more than four centuries.

Lister and Aseptic Surgery. The amazing advances in modern aseptic surgery have been made possible only through experiments on animals. Before 1880 it was unknown; and when Lord Lister, "the father of modern surgery," wished to perfect his new methods, he was compelled to go to France, so strict were the English laws. Through untiring experiments, Lister discovered the best method of treating wounds, the best materials for ligatures and sutures so that further infection and secondary hemorrhage were avoided. By means of experiments on a horse's great carotid artery, he learned the proper method of tying an artery. Then he applied this successfully to a woman, on whose leg he operated. Through experiments on a calf, he discovered that catgut was the most satisfactory material for tying arteries, and reduced the formerly frequent danger from secondary hemorrhage to almost *nil*.

Before the introduction of aseptic surgery less than fifty years ago, surgical mortality in hospitals ranged from 27 to 54 per cent. Not without good reason did surgical patients entering a hospital wonder if they would ever come out alive!

Banishing Childbed Fever. Years ago women begged

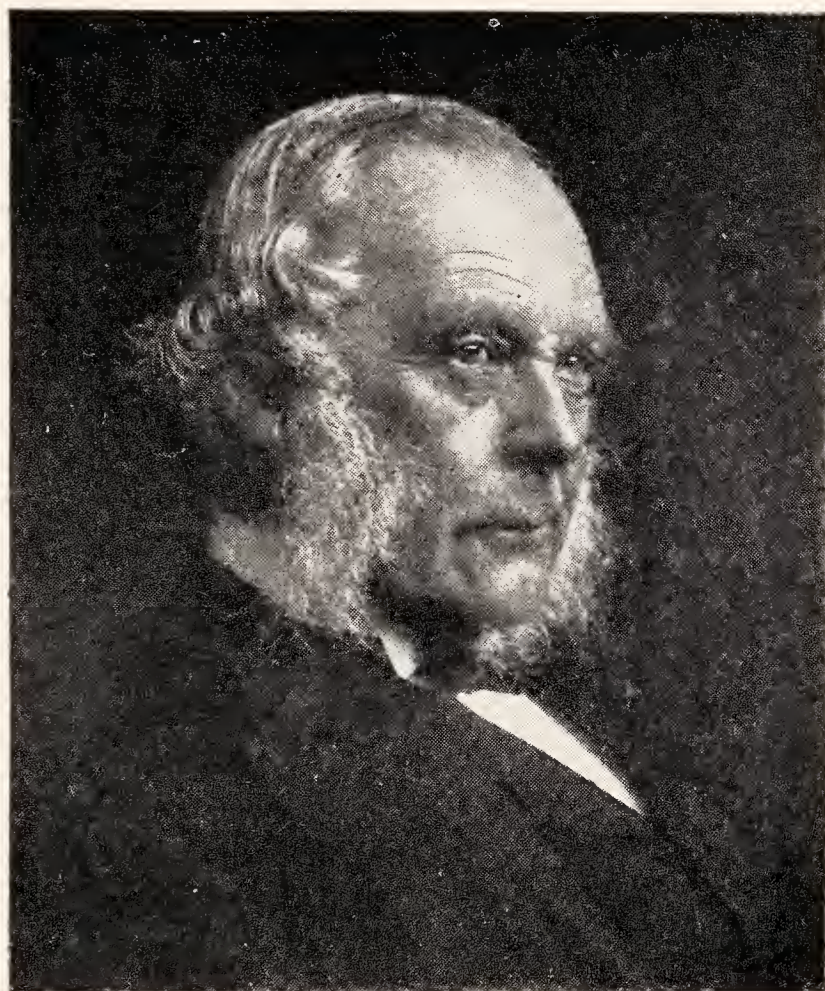


FIG. 19. LORD LISTER.

not to be taken to a hospital in childbirth, for sometimes three out of every four mothers there died of puerperal (childbed) fever. Almost every woman was doomed to suffer an attack. Then Pasteur discovered the streptococcus and designated it as the cause of puerperal fever. The adoption of aseptic methods has practically eliminated this dread fever, which now causes less than 1 per cent of deaths in maternity cases.

Compound Fractures. Compound fractures (that is, fractures in which the skin is broken open) were especially dangerous, for frequently patients developed blood-poisoning. In some hospitals nearly three-fourths of them died. Recently a New York surgeon has treated over 900 compound fractures without a single death from blood-poisoning.

Forbidden Ground to Surgeons. Years ago the abdomen and the head were forbidden ground to the prudent surgeon. It is estimated that 99 per cent of the abdominal wounds occurring in the Civil War were fatal. Now abdominal and brain tumors are removed and the patient recovers in the majority of cases. Sometimes three or four feet of the intestine are removed, the ends sewed together, and the patient recovers. The appendix is commonly taken out, and with a very small percentage of deaths.

Increasing Knowledge of Bodily Functions. Physiological experiments upon animals have given us equally important information concerning certain functions of the human body. Organs have been removed and then the vital changes resulting from their absence have been observed. For instance, the localization of cerebral functions has been determined through the excision of certain portions of the brain. The paralysis following this operation has demonstrated that the removed parts of the brain must be regarded as centers for motor or sensory nerves in the affected part of the body. Modern brain surgery is a direct outcome of these experiments.

In animals, the stomach has been removed and a direct connection established between the esophagus and duodenum, proving that existence without a stomach is possible.

Abdominal Surgery. The important law of vicarious activity was determined by similar means. Experiment showed that when one of the organs existing in pairs has been removed, the remaining one has taken upon itself the work formerly done by the other. In this way we have learned that one functionally active pulmonary lobe or one good kidney is ample for the maintenance of life.

Humane Rescues from Death. Equally important are the accomplishments of the past and the promise for the future through transfusing healthy blood from normal individuals to patients suffering from certain forms of pernicious anemia. Or, when a patient has been too weak to withstand the shock of an operation necessary to recovery, blood transfusion has preceded or been carried on during the operation. A nephew of Bishop Lawrence was rescued in this way by direct transfusion of blood. This miracle of science was described by the Bishop thus: "The boy was at death's door, and is now in perfect health." Is not such scientific progress *humane*?

Heart collapse has been responsible for many deaths in surgical operations. Through animal experimentations, it has been found that salt solution and epinephrin (the extract of a gland lying above the kidney) are valuable in saving life. Dr. George Crile, of Cleveland, has revived dogs fifteen minutes after apparent death. The great worth of epinephrin in preventing heart collapse in human beings has been demonstrated in many cases.

Making the Lamé Walk. In 1894 Dr. Robert Abbe, of New York, carried on a number of experiments in joining amputated limbs of animals on which he was working. Anyone familiar with surgery in the World War realizes that many veterans today owe their ability to walk, work

and use their limbs to the perfection of this type of surgery.

Combating Cancer. Cancer is perhaps the most dreaded of diseases in this day and generation. Clinical observation, bacteriological and microscopical study, and animal experimentation are all being used in an effort to discover the cause and banish the horrors of this disease.

Our Knowledge of Drugs. As to drugs, we have little exact information about their effects which was not obtained through experiments on animals. The proper usage of cocaine, digitalis, caffeine, eucalyptus, nitroglycerin and many other drugs was ascertained in this manner.

Animal Experimentation Eliminates Guesswork. To take a very practical instance, the physician would be absolutely at a loss how to administer the proper dose of digitalis if it were not for animal experimentation. Digitalis is the most important drug used for insufficiency of the heart, and the correct dose is often a matter of life or death. The doctor could not just take a stated amount of the digitalis powder or tincture, because the strength of the natural product varies greatly. There would be grave danger, nay almost a certainty, of giving too small a dose in one case and too large a dose in another. Hence the manufacturers of reliable digitalis preparations invariably "standardize" their drug first by determining its effect in exact units on the heart of a cat or frog. Then the physician employing it knows with mathematical precision what action it will have upon his patient and does not have to rely upon guesswork.

Heredity. Quite another branch of scientific endeavor has also profited through animal experimentation. I refer to researches on the influence of heredity. The effects of alcoholism, syphilis, tuberculosis and other diseases upon succeeding generations of animals have greatly increased our knowledge of their effects upon human beings.

Treating Digestive Disorders. Modern therapeutic prac-

tice in the treatment of digestive disorders is largely dependent upon results of animal experimentation. Here is but one instance. Pavlov, the great Russian physiologist, showed by his experiments upon dogs that the mere presence of food in the stomach did not cause a flow of digestive juices which are necessary to the digestion of food; but that so-called "psychical" factors, such as sight of food and its flavor and aroma, produced a copious flow of digestive juices and were important to good digestion.

Nutrition and Animal Experimentation. Our present knowledge of nutrition has been greatly advanced by the animal experiments of McCollum and others. Professor McCollum says that because dietary experiments on human beings cover such a brief length of time, they

. . . can scarcely be used as a basis for deductions of a far-reaching nature concerning the dietary practices which man may safely adhere to throughout long periods. Our conclusions as to what is safe and unsafe must be derived from tests of special types of diets on animals. The life history must be carefully observed, and the vitality of the offspring compared with a satisfactory standard of excellence. The correlation of these results may be made with the experience of man in various parts of the world, where groups are found whose dietary habits are of peculiar and restricted types.

Diets and Disease Prevention. Investigators discovered that a diet apparently adequate from the caloric standpoint was often insufficient to maintain health. Further dietary studies with animals led to the discovery of vitamins and the application of dietary knowledge to the prevention and cure of disease. Rickets, beriberi, marasmus and other so-called "deficiency diseases" have been produced experimentally in animals and then corrected by proper dietary measures. Improved nutrition is now being applied to the heightening of resistance against disease and to the correction of dental troubles.

Care of Mothers and Infants. Extensive dietetic experi-

ments with animals have added greatly to our knowledge of the care of mothers and infants. Careful studies of animals have abundantly demonstrated the results of faulty diets, showing that failure to grow is often due to lack of vitamins, mineral salts or other necessary elements in the mother's milk. For instance, lactating animals on low-calcium diets did not present an abnormal appearance; but their vitality was low, they were nervous and apprehensive, and their young did not develop normally. On the other hand, when animal-mothers were fed a diet high in calcium and vitamins, both they and their young grew strong and healthy.

Scientific Nutrition Important to Preventive Medicine. Professor McCollum says that these experiments "afford proof of the existence of, and point the way to a remedy for one of the greatest sources of human inefficiency and suffering." And he adds that since such work touches the root of the evil effects of one of the most colossal errors of civilization, it illustrates most vividly the far-reaching importance of scientific nutrition in preventive medicine.

Animals Benefit Too. While I have emphasized the enormous benefits of animal experimentation in alleviating the suffering of the *human* race, animals themselves have also profited by this type of scientific research. Epidemic diseases like anthrax, distemper, glanders, pleuropneumonia, blackleg, swine fever, chicken cholera, contagious abortion and tuberculosis in cattle have annually killed millions of animals. All these diseases have been brought under better control by these experiments. Influenza among horses is now controlled by an antitoxin.

Sacrificing Animals or Humans? From time to time, opponents of animal experimentation have worked strenuously to abolish it. In the thirty years before the World War they spent over a half million dollars in Great Britain alone and large amounts here, in an effort to end all types of scientific research necessitating the use of animals. Ap-

parently blind to the suffering and death of human beings and the brief of their families, they demand the abolition of the only means of preventing or decreasing it in the future. Bills have frequently been introduced before our state legislatures, before the Senate and House, to prohibit experiments on dogs and other living animals for purposes of scientific research.

At the time of this writing, a bill sponsored by the Vivisection Investigation League was pending before Congress. It provided for a fine of not more than \$500 and imprisonment for not more than one year for persons experimenting or operating in any manner whatever upon a living dog. While the medical fraternity was opposing this measure, such pressure was being brought to bear from many parts of the country that favorable action was avoided with difficulty.

Antivivisectionists however plan to follow this up with campaigns for similar laws in all forty-eight states.

A Great Danger. Should animal experimentation be legally prohibited, not only would all progress in medicine and surgery be prevented, but the present health and life would be imperiled. This was pointed out more than fifteen years ago by Samuel Dickson, an eminent member of the Philadelphia bar, when he said, "It will not be possible to obtain and test vaccine for protection against smallpox by the inoculation of calves, or the antitoxins, from the inoculation of horses, against diphtheria, lock-jaw, or the epidemic form of cerebrospinal meningitis." It would also prevent physicians from diagnosing the early stages of tuberculosis through inoculation of guinea-pigs; and in prohibiting the testing of strength of preparations of ergot on animals, it would endanger the lives of many women with hemorrhage at childbirth.

Hope for the Future. Contrast with this the progress possible if animal experimentation for scientific research continues without hindrance. It may be possible to find the

cause of cancer, whooping-cough, measles, influenza and other diseases, and practically banish them as we have those dread scourges which are now unknown. No one can realize better than the physician and the social or religious worker that sickness is the most potent cause of poverty and distress. Viewed in this light, shall we not increase the chances for health and happiness in countless individuals and families if we continue this righteous warfare against preventable diseases?

Women have always been among the bitterest opponents of animal experimentation, perhaps because they are generally more sympathetic and more highly sensitive than men. Until recent years they have not mingled in the world as have men and possibly could not realize the enormous benefits made possible only by this type of scientific research.

How Religion Can Help. How can religion cooperate with medicine in protecting and furthering scientific research for the alleviation of human suffering?

A decade ago Father Tondorf, of Georgetown University, came gallantly to the defense of scientific research when bills before the Senate threatened animal experimentation for this purpose. Not only did he secure a number of eminent scientists to lecture before his students so that they might be informed on this subject, but he appeared before the Senate Committee to plead his cause.

Because half or more of the clergyman's audiences are feminine, I believe they can do particularly effective work in protecting scientific research. In his sermons, in talks to women's clubs and in personal conversations, the clergyman can speak informatively on this subject when occasion arises and inculcate a sane viewpoint in his listeners. It seems to me that when facts are presented in their true light, when it is shown how great an aid is animal experimentation in banishing suffering, sickness and attendant poverty, most of the opposition will in time fade away.

Instead, animal experimentation will be regarded as a *humane duty*, and as our only hope for lessening disease in the future.

Experimental Research a Moral Duty. This view was eloquently expressed by that kindly, sympathetic dean of American surgeons, Dr. W. W. Keen, when he said:

The chief means by which medicine and surgery have won their beneficent triumphs has been experimental research. To abolish all such research . . . would be a disaster to the whole human race by preventing future researches which will equal if not surpass those of past years. Our descendants must not be abandoned to devastation and death from diseases, the cause, prevention, or cure of which are now unknown. . . . I regard experimental research in medicine as a medical, a moral, and a Christian *duty* towards animals, towards my fellow-men and towards God.

Chapter XXIII

PROFESSIONAL SECRECY

Do circumstances ever justify its violation?

FOR the physician, professional secrecy is in many ways the same as the seal of the confessional for the priest. The confessional imposes unequivocal silence concerning anything the priest may learn in the confessional chair. The physician's professional secrecy is also like the ethical silence imposed on the Protestant clergyman regarding the confidences entrusted to him by his parishioners.

The Seal of the Confessional. Confession would lose its entire value if those who relied upon it to ease the conscience could not be certain of the uncommunicativeness of their spiritual adviser. Without the assurance of absolute secrecy no one would think of disclosing in confession a punishable act about which he alone knew. The priest is bound to secrecy not only when the confession apprises him of a crime that has been committed but also when he is informed that one is contemplated.

The extent to which this secrecy is preserved may be judged by some of its consequences. For instance, if the priest, by withholding absolution, should not succeed in causing the evil doer voluntarily to disclose his guilt to a

judicial authority, the Roman Church bids him to maintain secrecy, even if by so doing he should permit the punishment of an innocent party or allow a contemplated crime to be carried out.

Mental Therapeutics and Confession. Thousands of troubled, worried persons unburden themselves to clergymen of other religions, too; and here the same high ethical code of secrecy prevails. In the Protestant and Jewish faiths, the purpose is not confession for absolution but rather the unburdening of the troubled mind. Wholly aside from wise, helpful counsel that may be given, the actual telling of one's troubles to a sympathetic listener is beneficial to the harassed narrator. In fact, a medical man once said, "Whether by intent or not, mental therapeutics started in the confessional."

Does *medical* professional secrecy impose upon the physician the same rigorous silence in regard to everything he may have learned through professional intercourse with his patients?

Professional and Confessional Secrecy. In considering this question, we should remember that confession, as instituted by the Roman Church, is based upon divine law. This is not the case with *medical* professional secrecy; but there always have been physicians who regard this obligation just as binding in every respect as does the Catholic priest.

Where the Obligation Ceases. A much larger body of medical men maintain that the physician's conduct is not so restricted as that of the priest. They hold that in extreme instances he would have the right to prevent a predetermined crime or to deliver into the hands of the law a criminal whose acts had become known to him directly in consequence of his professional care. Like the priest, he would first endeavor to dissuade the prospective wrongdoer from carrying out his evil intentions, or persuade the guilty criminal to give himself up voluntarily to the au-

thorities. Should he not succeed, it would be his duty to notify the proper officials.

Reporting Contagious Diseases. In regard to cases of smallpox, scarlet fever, measles, diphtheria and similar contagious diseases, the state laws of this country compel the physician to notify the health authorities. No intelligent person having the interests of his community at heart will complain that a physician who reports to the health officials has greater respect for his communal duties than for his professional secrecy, even though the stricken families are put to additional inconvenience and trouble on account of the prophylactic measures imposed by the local board of health. Where these diseases exist, everyone seems to appreciate the necessity of notifying the health authorities and the propriety of the measure taken to prevent a spread of the particular disease.

Public Opinion and Venereal Diseases. But when it comes to venereal infection, most people think otherwise. In the eyes of the public such disorders carry with them something disgraceful and deprecable. Instead of looking upon venereal infection as a misfortune which most easily and most often afflicts the inexperienced, public opinion brands it as a disgrace. The afflicted persons consequently endeavor to conceal their shame. As a result, they often not only remain uncured but also endanger the health of other people by acting as a source of contagion.

Many infected persons by no means appreciate the significance of the symptoms that have more or less suddenly manifested themselves. They receive their first enlightenment from the physician. Others believe themselves venereally infected when they are not. If we consider the incalculable misfortune that is caused by the conscious or unconscious dissemination of venereal disease, then it certainly would be best strictly to fulfill any existing notification statutes without any consideration for the so-called stain it may leave upon the individual and forcibly to

quarantine the infected person until he is completely cured.

Why Secrecy Is Needed. Many considerations, however, work against so drastic a measure. As soon as such persons, like everyone else who has something to hide, could no longer rely upon their physicians, they would avoid the advice of a conscientious practitioner and would turn to quacks and charlatans for help, often leaving the entire cure to nature. The result would be a far greater evil than might follow a physician's failure to give due notice to the authorities.

There is but one means of escape from this dilemma: for the physician to make the notification in one instance and not in another, his decision in each case depending upon the confidence he has in the patient's ability and will to carry out the orders he has received. The physician must direct the patients' attention to the greater danger to which they themselves are exposed if the disease be allowed to run on, and explain the dire results that follow a neglected gonorrhea or an untreated syphilis.

Professional Secrecy and Marriage. Many people ask the physician about the advisability of marriage. Here the question of professional secrecy may acquire great practical significance, especially when a person infected with venereal disease announces his determination to marry. Even where no such intention exists, the physician may encounter a conflict of duties. On the one hand, he is supposed to maintain strict professional secrecy; upon the other, the law requires him to notify the health authorities of all cases of contagious disease that come to his notice.

There are generally two kinds of men who ask the physician about the advisability of marriage. The first, if infected, conscientiously follows the physician's advice to break off or delay his marriage. The second absolutely refuses to do so, even though he knows the sorrow and

sickness which will befall his wife and any children they may have.

Should the Physician Tell? Years ago a case of this kind attracted considerable attention in Europe. A leading physician in a Continental city was treating two patients who told him they were to be married soon. The young man had syphilis and the physician warned the girl's father. A week later the doctor was shot and killed by the enraged suitor. On the other hand, physicians have been severely criticized when they have withheld such tragic information from their own friends.

In some cases the physician may be a long-standing friend of the girl's family; he may even have brought her into the world. As a physician, he realizes more keenly than anyone else the awful suffering to which she is doomed. Yet because the obligation of professional secrecy seals his lips, most physicians maintain that he may not give her the slightest warning of impending danger.

Dr. Prince A. Morrow once said:

There are no circumstances in the entire range of a professional man's experience so painful as to recognize himself powerless to prevent the morally culpable union of a syphilitic man and an innocent woman. There is no situation in which the arbitrary restrictions of a code of conduct based upon professional secrecy seem so opposed to the voice of conscience and the dictates of humanity as the one under consideration. To protect the man, he feels to be odious, immoral and culpable, to protect the woman would be manly, human and just. The inspiration of his conscience cries out against the former duty, every noble instinct of his nature would be enlisted in the latter duty.

If the husband contracts syphilis after his marriage, professional ethics do not allow the doctor to disclose the nature of the disease to anyone, not even to the wife if the husband brings her to be treated for similar symptoms. The man or woman with venereal disease endangers the whole family; yet, according to age-old standards of pro-

fessional secrecy, the physician may not warn the innocent partner of this constant and dreadful danger.

Syphilitic Villages in Russia. Every physician should do his utmost to make such patients realize the danger to which they expose other persons through association and the possible resulting infection. Some idea of the prevalence of venereal diseases among innocent victims is shown in the fact that there have been found whole villages of syphilitic children in Russia. In other countries, too, venereal infection is far more widespread than the public generally realizes.

Gonorrhea Second to Measles. Dr. Harry Beckman, Professor at Marquette University, Wisconsin, says:

Gonorrhea outranks in incidence a large number of infectious diseases in children, running perhaps second to measles and outnumbering smallpox and scarlet fever. Its greatest frequency is in girls up to the age of five years, but it may occur at any age up to puberty. The disease is contracted indirectly from infected adults, through such media as clothing, bed-clothing, towels . . . and innumerable other household materials.

The Facts of the Case. Every physician is sufficient judge of human nature to be able to determine whether the patient is a conscious libertine or the pitiable victim of inexperience. In my opinion, sufferers of the latter class will be better served if no notification is made; for then they can be kept under observation and control which otherwise they might endeavor to evade. If, on the other hand, we are dealing with a hardened profligate who would without any consideration expose other people to danger, I believe the higher moral duty of guarding other people against misfortune and misery should take precedence over the physician's obligation to professional secrecy.

Health Certificate for Marriage. Fortunately some states have already led the way by making the marriage license dependent upon a certificate of health, denoting freedom

from venereal and other diseases. Michigan, for instance, forbids marriage to anyone suffering from venereal disease and not yet cured. Six states prohibit the marriage of epileptics, who sometimes conceal from the other contracting party to the marriage any knowledge of their affliction. New Jersey does not permit the marriage of any person who has been confined in an asylum as an insane, feeble-minded or epileptic patient unless this patient can secure from two physicians a medical certificate of complete recovery, stating that there is no probability of the transmission of such defects.

These state laws are the simplest solution of the question both for those who, through ignorance, would bring unending misfortune upon themselves and their families, and for those egoists to whom the sufferings of others, even their own relatives, mean nothing.

Educating Young People for Marriage. It is almost impossible to overcome the sexual evils and the sufferings of a woman married to a syphilitic. The real solution of the problem lies in preventive and educational work among our young people. Here the physician and the clergyman can cooperate effectively in teaching them early in life the importance of physical and mental health to marriage. In my opinion, this may very properly be made a part of any talk, discussion, or personal counsel on marriage, for in all faiths, whatever the specific tenets regarding matrimony, physical and mental health are a vital factor in its success or failure. Anything that religiously minded people can do, either by effort or influence, to make physical examination of the parties compulsory before marriage will help in obviating much needless suffering and tragedy. Also, the requirement of a health certificate will do much to impress the general public with the importance of this phase of marriage; and the physician will be relieved of his responsibility.

In my opinion, the obligation to professional secrecy

ceases when, through the protection of a guilty man or woman, misery and distress would be brought upon innocent persons.

Protecting the Innocent. In France, where the custom of having a wet nurse for infants is much more usual than here, syphilis is sometimes spread by children of syphilitic parents. Under French law, the wet nurse must be informed of this condition by the parents. If she is not told and contracts the disease, she can collect large damages.

If the child is healthy and the nurse syphilitic, the disease may be transmitted to the child and other members of the family. I believe that in such cases, where persuasion and threats of exposure fail, the physician should by all means warn the parents of the danger to which their child is exposed.

Syphilis may be spread by toy vendors, bakers, waiters and persons in other occupations where they come into contact with many other people. It may be spread by servants in a household. All such occupations should be regulated in this respect by the health authorities; and for the benefit of the public health, I believe that the physician should report such cases to them. The opprobrium attached to the word *syphilis* has led many to believe that the disease is always contracted through sexual union. This is not so. Syphilis of the innocent is much more common than is generally supposed. It is not unusual to find the primary sore on the lip, as a result of kissing a syphilitic person; or, in the case of a physician, on the finger, from examining a woman with the disease.

All medical men recognize the binding character of the obligation of professional secrecy. It is generally considered unethical and improper for a physician to disclose anything confided to him by a patient except with the patient's consent, to defend himself when accused or to expose crime. The courts respect this professional secrecy and will not compel a physician to reveal information that was con-

fided to him in a professional capacity. I believe that this obligation ceases when professional silence brings tragic suffering to innocent persons. In all other instances, professional secrecy is quite as obligatory upon the physician as the seal of the confessional upon the priest.

PART IV

WHERE MEDICINE AND RELIGION JOIN
HANDS IN EVERYDAY LIFE

Chapter XXIV

THE MEDICAL PROFESSION IN HYGIENE EDUCATION

HEALTH has sometimes been called the *absence of disease*. But in its positive sense, health may be looked upon as that state which permits the human organism, without restraint, to carry out its natural functions. The more nearly this can be done, the more perfect is the "state of health."

Disease results from the *violation of some physical law*, whether or not the victim of illness is aware of it or in any way blameworthy. One person may "catch cold" because he carelessly sits next to another with a heavy cold. He is to blame for the consequences if he knows of his neighbor's cold and does not speedily remove himself from danger.

On the other hand, take the case of an undernourished child or adult who, because of poverty, cannot obtain proper or adequate food. As a consequence, the body is weakened and its resistance to disease lowered. When contagious disease invades the neighborhood, it succumbs easily while the well-nourished have the strength to resist successfully.

PREVENTIVE MEDICINE

Long ago it was thought that the function of the physician was to restore the sick to health; or, if this was impossible, to alleviate their sufferings as far as possible. During recent years the medical profession has seen how much has been accomplished by preventive medicine and now believes that it is just as important to show people how to keep well as it is to care for them when they are ill.

This viewpoint assumes even more importance when we take into consideration how artificial is our civilized life, how far removed from the life for which our bodies are best suited. Our overheated homes and lack of fresh air predispose us to colds. Refined foods and lack of exercise make us flabby and constipated, and far more likely to fall easy victims to the disease germs which are constantly invading our bodies.

The task of the physician, then, is not only to restore his patients to health, but to show them how disorders may most effectually be avoided; how health may be maintained, stimulated and fortified against disease.

Observing Definite Health Rules. Hygiene covers the health relations of all of life, both the physical and the mental. While hygiene is no "life insurance" for the individual or the community, experience has clearly demonstrated that the organism has more strength and resistance against disease when it observes certain definite health rules.

NUTRITION

Nutrition and Efficiency. An important phase of individual hygiene is nutrition. It has been aptly said that "we are what we eat"; and no one can deny that proper and adequate food, served in an attractive and appetizing manner, does more to increase the efficiency of the constitution than any other factor. Again and again it has been demonstrated by animal experimentation and clinical tests in

institutions that food makes the difference between health and disease, between high resistance against unavoidable injurious influences and early yielding to disease, between the highest possible efficiency of the constitution and a struggle to exist.

Calories. Years ago nutrition was supposed to be best attained by providing the body with the necessary number of calories for energy and of protein for body building. No attention was paid to, and nothing was known of the vitamins—those elusive chemical substances present in certain foods, which cannot be identified by exact tests but without which the body suffers serious deficiency diseases.

Vitamins. During the past quarter of a century new nutrient principles were discovered which have since become known as vitamins. Seven distinct vitamins are now recognized. Vitamin A, present in butter, fat and cod liver oil, promotes growth and resistance to colds. Vitamin B, present in yeast and many vegetables, promotes nutrition, increases appetite and raises general resistance. Vitamin C, present in oranges, lemons, limes and tomatoes, protects against scurvy. Vitamin D, present in cod liver oil and viosterol, protects against rickets. Vitamin E, present in wheat germ, enhances fertility. Vitamin F, present in the rice pericarp, wheat germ and yeast, protects against beri-beri. And vitamin G, present in yeast, protects against pellagra.

Hence it is apparent that a full measure of health requires an adequate intake of all seven vitamins. Under ordinary circumstances, a balanced diet provides enough of all the vitamins except vitamin D, which, in the case of infants and young children, must be supplemented during the winter months in the form of cod liver oil or viosterol.

Deficiency Diseases. Malnutrition resulting in lowered physical efficiency and resistance to disease is one of the major problems of the medical profession today. H. H.

Perlman, M.D., of Philadelphia, after a study of malnutrition in children, says that the extent of dental caries and anemic manifestations in children depends upon the degree of malnutrition. Fractured bones are slow to unite when the patient's diet has been deficient in calcium.

Lowered Resistance to Disease. Besides lowering the resistance to disease, dietary deficiencies affect the immunity of the individual. The surface glands become atrophied and permit the entrance of bacteria through the skin or mucous membrane. Inhibition of digestive secretions allows more rapid increase of certain bacteria. It has also been found that there is a close relationship between malnutrition and retarded mental development of children.

Lack of any one of the essential food factors means a lowered standard of physical and mental efficiency. Vigorous health is impossible without minerals and vitamins, in addition to proteins, fats and carbohydrates.

Dr. E. V. McCollum, Professor of Chemical Hygiene at Johns Hopkins University, has said:

In the aggregate, by far the most important effect of faulty nutrition in man is the result of errors of one kind or another which are not sufficiently grave to cause prompt and spectacular failure. It is the gradual operation of more or less constant, but unperceived causes, rather than of great exposures of an accidental nature which in most cases are responsible for undermining the health of the individual. Of these causes it now seems certain that the consumption of an improperly constituted diet is one of the most important. It is one of the causes of inferiority in physical development, instability of the nervous system, lack of recuperative power and endurance and consequent cumulative fatigue, and lack of resistance to infections such as tuberculosis and other diseases where specific immunity is not easily developed by the body. In addition to these, the rate of development of senile characteristics and consequently the length of the span of life are greatly influenced by the type of diet to which one adheres.

Vegetarianism. One of the extreme tendencies in nutri-

tion accepted by many thousands of people, but not by scientific physicians, is vegetarianism. Partly from moral and partly from what they regard as hygienic reasons, its followers abstain from meat and sometimes from foods of animal origin. There are all degrees of vegetarianism: Some vegetarians are content to abstain from meat; others include eggs and other products derived from animals as taboo.

Arctic explorers and Esquimaux enjoy excellent health while living on an exclusively meat diet. It cannot be said that they exhibit any of the signs of deterioration which vegetarians attribute to consumption of flesh. On the contrary, persons who eat no meat at all are apt to become anemic and their resistance to infection is frequently lowered. Hence, according to the modern medical teaching, meat is a wholesome food, a part of the correct daily diet.

It is often said, "A man is as old as his arteries." True it is that some men in their forties have soft arteries and are therefore young, while others in their twenties have hard arteries and are therefore old. The "pipe-stem" artery on the forehead or at the bend of the elbow is the surest sign of physical as distinguished from chronological age.

It is the quantity rather than the quality of the food that contributes to arteriosclerosis, or hardening of the arteries. Literally many men over forty eat their way to the grave, because overeating is one of the important causes, but not the only cause, of arteriosclerosis.

Sclerosis. Whenever possible, sclerosis should be prevented; and when it already exists, it should be combated. In the case of sclerosis of the arteries, it is a question whether such sclerosis does not after all represent nature's means of defending the arteries against the wear and tear which they would naturally incur as a result of their lack of stability and power of resistance. If this be so, every hygienic measure that goes *beyond* the general care of the health with the direct purpose of preventing or removing

a sclerosis of the arteries would constitute an error. Preventive treatment for sclerosis as a manifestation of age must be regarded as an attempt at rejuvenation.

Fresh Air and Sunshine. Nutrition is a question of obtaining the highest possible resistance against unavoidable injurious influences and the highest possible efficiency of the constitution. From this viewpoint, adequate nutrition consists not only of the optimum consumption of food and drink, but also of *air*. If possible, living conditions should be so selected and arranged that the purest possible air can be had. At the same time, the danger of catching cold should be reduced to the lowest imaginable point, and the body should obtain all the light and sunshine possible.

So decided has been the trend of population toward urban life that the problem of obtaining sufficient air and sunshine is a serious one for many families in poor or moderate circumstances. So heavily laden with dirt is the air of some of our cities that a large proportion of the health-giving ultraviolet rays are shut out. Inhalation of dirt and dust takes place without our realizing it. Investigation has shown that in New York City, for example, the lining of the lungs becomes very perceptibly blackened with dust after eight years. Records of the Central Park Observatory in New York City show that June averaged 5.73 tons of suspended dirt to the cubic mile of air, while the daily average for the year was nearly four tons per cubic mile.

Clothing and Housing. Individual hygiene concerns itself also with the proper kind of clothing. It deals with housing conditions: the location of the building, the plan of its separate rooms, and their facilities for heating and ventilation.

Cleanliness. There is also the question of cleanliness: bodily washing and bathing. During the last twenty years much has been accomplished in raising the general level of health through cleanliness and better home sanitation.

General public education through health columns conducted by physicians in our magazines and newspapers, lectures and articles on various phases of health and cleanliness have resulted in a higher type of American home sanitation than in any other country of the world.

Sports and Health. The last two decades have seen a great increase in exercise, athletics and various sports, particularly those in which women participate. Nowadays thousands of women engage in healthful sports instead of being merely spectators as in former years. This naturally aids in raising the general level of health and in both sexes tends to offset the evils of sedentary occupations.

Luxuries and Health. Individual hygiene also includes the question of table luxuries in contrast to real means of nourishment. A cup of coffee may sometimes be a real need or at least a harmless pleasure; at other times, aside from any question of excess, it may be positively injurious and by some people should be distinctly avoided. For example, the average person can take one or two cups of coffee for breakfast without harm and often with benefit. Before going to bed, however, the same amount of coffee might keep him awake most of the night. Again, high-strung and temperamental individuals had best leave coffee entirely alone.

Briefly, it is a question of healthful care of the body in every direction, and the most healthful surroundings which circumstances will permit.

MENTAL HYGIENE

A consideration of personal health care would be inadequate without mention of mental hygiene. Mental powers should not only be developed to their highest possible level, but the individual should be trained to self-control and to maintain an equable mental balance. Of recent years, there has been a tendency to overemphasize the "newer psychology" with regard to bringing up children.

Students who have read but not understood Freud have inveighed against the evils of repression and urged parents to allow their children to express themselves to the utmost. The result is apparent in the younger generation of today in a general lack of restraint and respect for one's elders. Obviously, neither Freud nor any other master of psychology ever meant to teach that the habit of self-control is in any way injurious.

Without mutual self-control on the part of the great majority of our population, civilized life would be impossible.

The complexity of modern life, with its noise and rush, has so increased that mental hygiene is daily assuming greater importance.

In its broader sense, mental hygiene concerns itself with the kind and amount of occupation, with the proper apportionment of work and relaxation. It also deals with many other factors which may affect the mental health of the individual, such as the amount of sleep and recreation, the adoption of some hobby or special interest, the abstinence or restriction of employment. For the betterment of mental health, it may inquire into personal choice of a vocation, or change from one to another. A mental hygienist may advise complete renunciation of any markedly social career. It is also within his province to advise concerning rest periods and vacations, in keeping with the patient's needs, the climate and the season of the year.

Personal Adjustment to Conditions. Just as individuals differ, so their personal needs differ. The life of each person is interwoven with his surroundings, and his health relations are an integral part of the whole. Yet because each person's life differs from that of any other person, so do his hygienic needs vary. What may be useful for one may be injurious for another; what may be necessary for one may be unnecessary for another.

The food and clothing of a farmer must differ from that

of an office worker; that of the walrus hunter from that of the shepherd on the Roman Campagna. Given a similar individual endowment, external conditions will turn the same vocation into the greatest benefaction for one person and into the greatest misfortune for another.

For example, tennis, baseball and other strenuous forms of athletics are ordinarily wholesome exercise; but certainly they cannot be recommended for one with heart disease or with incipient tuberculosis. Instances are known in which persons who should have been advised to keep off the tennis court by reason of heart trouble have dropped dead while playing. And the popular Christy Mathewson developed advanced tuberculosis, from which he died, largely as a result of the excessive strain brought about by his famous pitching.

On the other hand, variations in natural endowments may bring about correspondingly varied results. This same principle applies equally to the kind and measure of a person's recreation. The same kind of reading for diversion may constitute a source of pure enjoyment and renewed strength or it may completely upset one's emotions, according to the person's disposition and training.

Importance of Physical and Mental Cleanliness. In all these questions on hygiene one cannot leave out of consideration the often difficult demarcation of the moral from the specifically medical. However, we may start from the premise that cleanliness in every direction is conducive to health; and that uncleanness and filth in feelings and thought cannot be maintained without carrying specific results in their train.

Owing to special conditions, it may occasionally happen that the association of two characters who are of themselves irreproachable may become the cause of unavoidable constant friction and serious health disorder. These results will be still more marked if the individuality of

character or temperament be associated with a predisposition to disease.

Marriage has a tendency to emphasize the good or the evil that is in either or both parties. It is well known that many married couples who are altogether amiable as individuals show the worst sides of their characters toward each other. On the other hand, we have all met happily married couples who as individuals possessed the worst social characteristics.

SEX HYGIENE

Sex Aberrations. As a rule, however, one's sex life necessarily influences his conduct in all other respects. If true gratification is not obtained, or if it is obtained in an abnormal or unsatisfactory way, one's entire life is disturbed. We cannot put the sex life of an individual in a separate compartment apart from his experience in the more commonplace conduct of life.

Hence, in considering the psychological make-up of a person who is having troubles and seems poorly adjusted to his environment, we must always look for sexual aberrations. Frequently, the services of a psychiatrist are necessary for full understanding of the individual case. When a man, young or middle-aged, appears emotionally disturbed, *cherchez la femme*. And equally, if one is worried about the behavior or mental health of a woman, young or middle-aged, cynics have a habit of saying, *cherchez l'homme*.

Sex Hygiene and Heredity. The matter of sex hygiene assumes peculiar importance when viewed in the light of our knowledge of propagation and heredity. There are many threatened injuries against which the medical profession is endeavoring to protect the immediate family or its descendants. A tuberculous woman, for instance, may question her physician about the advisability of bearing children.

Such was the case of Mrs. A., a young wife with incipient tuberculosis. Though her husband was very desirous of children, the family physician strongly advised the young couple to wait five years, when the young woman would doubtless be restored to health. Unfortunately the husband would not wait for a family and the child born to them was a wizened little weakling. The mother died soon after the baby's birth as a result of advanced tuberculosis greatly aggravated by her pregnancy. Scarcely out of babyhood, the child also died, a victim of tuberculosis.

Need for Eugenic Restrictions. Very few restrictive measures have ever been applied to the marriage of or reproduction by criminals, epileptics and alcoholics. Though the medical profession, by lectures and personal counsel, is endeavoring gradually to educate the public to an active disapproval of dysgenic marriages, the requirement of health certificates from both parties requesting marriage would doubtless be a much more effective measure.

Epileptic parents, for instance, should never bring children into the world, for they will probably be defective. The real danger from this problem alone is seen in the reports from a detailed investigation in New Jersey, where it is estimated that the number of epileptics will double every thirty years if restrictive measures are not inaugurated.

Race Betterment. Eugenists and many other serious-minded people naturally go further than this and consider it the social duty of all parents not only to maintain the level of the stock and race, but also to lead it to a higher plane. Inquiry into family history before marriage, as well as a health certificate, has been advocated by many members of the medical profession as an aid to race betterment. Persons with long-lived ancestors, for instance, generally bear strong, healthy children, as there is a direct connection between longevity and a strong constitution.

THE GROWTH OF OBSTETRICS

Thus hygiene is concerned both with the present and with the future being. It deals with the latter not only as a completed structure but as one in the making, as an embryo. To the infant, then, as to the mother, the medical specialty of *obstetrics* comes as a benefaction. Only a few centuries ago a physician was not allowed to attend women in childbirth, owing to the false standard of modesty in those times. Women bore their children without professional care or attended only by midwives.

The growth of scientific medicine and surgery has been accompanied by progressive technical achievements in obstetrics and gynecology. These include the most minutely elaborated details of hygiene for the pregnant woman. As soon as parturition begins, special health provisions for mother and child are inaugurated. In case of difficult or impossible delivery, surgery steps in and performs the cesarian operation. Thanks to anesthesia and modern aseptic surgery, this operation is now practically painless and the means of saving many lives.

Highest Infant Mortality Here. In spite of all the advances made by modern medicine and surgery, there still remains much to be done in the field of obstetrics. Unrelenting figures show that the United States still has the second highest mortality rate for women in childbirth. This deplorable condition is partly due to the surprising number of women who employ untrained midwives at this crucial time. Some critics have pointed out, too, the need for longer practical training in obstetrics for young physicians who expect to handle this type of case.

The hygiene of the infant, especially in all questions of nutrition, has in recent years acquired the significance of a distinct medical specialty.

Instruction in infant care through clinics and baby

health stations has resulted in saving the lives of thousands of babies and young children.

PREVENTING CONTAGION

One branch of hygiene in which great advances have been made and still greater are needed is the prevention of contagion. Experience teaches that the same source of contagion may produce disease in one organism while it leaves another entirely unaffected. In other words, the contagiousness of disease is dependent not only upon the entrance into the body of the germ of contagion but also upon the simultaneous presence of a certain disposition of the body. When a person has passed through a certain disease and health has been restored, he generally becomes immune to a second attack of the same disease.

Hygiene endeavors to imitate this natural process artificially by inoculating the organism with a dead or attenuated bacterial culture. By producing a mild degree of contagion, it brings about an *immunity* to this disease.

Vaccination and Smallpox. The procedure has been marvelously successful against that scourge, smallpox. In former times, this plague mowed down its victims by the thousands. In the eighteenth century, one could not walk through the streets of any large city without passing dozens of persons whose faces were pitted by deep ugly scars. Many a beauty of that century was made ugly by an attack of smallpox. But now, in all countries in which vaccination has been systematically carried out, this devastating disease has little by little died out. The ever smaller number of cases that still occur are found among immigrants from countries in which vaccination is not required by law, or in territories directly adjoining those unprotected lands.

In spite of these facts, certain opponents of protective smallpox vaccination still consider the procedure valueless and even a menace to health. These antivaccinationists en-

deavor to explain the disappearance or diminution of smallpox in protected countries by attributing the passing of the disease to other causes, such as improved sanitation, a higher standard of personal cleanliness, and better food supplies. Their arguments are interesting, but fallacious.

Wiping Out Typhoid. Pasteur applied the principle of immunization to the prophylaxis of bacterial infections. Almroth Wright went a step farther and applied it to treatment of microbic disease, using cultures of *B. Typhosus* killed by heating, for the protection of British soldiers against typhoid fever. During the World War typhoid and paratyphoid fevers were eliminated from the British forces by vaccination. In the Spanish-American War it was truly said that disease killed more American soldiers than bullets. As a result of prophylactic vaccination of our soldiers in the World War, however, among over four million men, deaths from typhoid were only 215, from tetanus four, and from smallpox fourteen.

Diphtheria and Scarlet Fever. Two of the recent diseases to yield their terrors to prophylactic immunization are diphtheria and scarlet fever. By injection of susceptible children with toxin-antitoxin mixtures, these scourges of childhood now come within the realm of preventable diseases. It remains for the public, after thorough education as to the value and harmlessness of diphtheria and scarlet fever prophylaxis, to take full advantage of them as a means of averting serious illness and possibly saving life.

Prophylactic Inoculation. But up to the present time the successes attained by protective smallpox vaccination have not been duplicated in the prophylactic inoculations being introduced for the prevention of certain other diseases such as tuberculosis, pneumonia and influenza. In some instances, results of inoculation have been illusory and even injurious. Many times, therefore, the only known effective prophylaxis against disease is systematic cleanliness and other well-known hygienic principles.

REJUVENATION METHODS

Rejuvenation methods also are rightly classed with hygiene. Since olden times hygiene has endeavored to prevent premature senility and to mitigate the infirmities of old age. In their final analysis, all hygienic measures have contributed to this end. The more perfect and effective hygiene in general becomes, the more definite also becomes the aim. As I have previously noted in this chapter, hygienic measures for the prevention or abatement of arteriosclerosis are but one of the possible attempts at rejuvenation.

The possibility of turning back the wheel of life has always intrigued human imagination. So far, however, it must be assigned to the province of the imagination and the domain of superstition. Even if all present methods cannot bring about any rejuvenation in the true sense of the word, they might, by implanting renewed vitality, possibly convey to the organism the qualities existing at a previous phase in life.

Glandular Therapy. More than forty years ago Brown-Sequard tried experimentally to establish a relationship between senility and the products of the sex glands. In 1923 Eugene Steinach of Vienna experimented upon the production of rejuvenation by ligature of the vas deferens of the testis. About the same time Voronoff employed testicular transplantation with the same object in view. Whatever results have been obtained can be classed with certainty only as a return of erotization with increased metabolic energy. These effects are merely temporary. There is no arrest of senility nor real rejuvenation.

It is also interesting to follow the work of Karl Doppler, who renounced all gland operations and subjected the nerves of the neck to applications of phenol solution. In 1928 he published reports claiming success in over 200 men and women. However astonishing and intriguing such

statements are, they should be met with the utmost reserve. In evaluating results obtained by so-called rejuvenating procedures, it is apparent that successful reports have been largely colored by too much enthusiasm and optimism.

Certain kinds of hygiene require individual treatment. Other types demand mass treatment because of existing conditions.

COLLECTIVE HYGIENE

In collective hygiene the dominating body is made up of the people as represented by the state, the local community, or an organized public corporation. Religious and charitable organizations also carry on extensive and valuable work in the field of public hygiene.

Much of this hygienic endeavor is not directly of a medical nature; yet better sanitation or any improvement in health care aids in the battle against disease. Moreover, the public health as a whole depends upon the health of each individual in the community. The curing of any diseased person and betterment of the health of others help to improve the health of the entire town or city.

Public Health Depends on Individual Health. The fewer the number of individual sick persons, the more favorable is the state of public health. The greater the number of sick persons, the more unfavorable it is. Consequently, what is of therapeutic moment in an individual instance is at the same time a hygienic measure from the standpoint of public health. A hospital in which hundreds of sick persons are treated daily is not only an effective factor in the treatment of disease but in a truly preeminent sense is also an important endeavor in public hygiene.

The Red Cross and Public Health. In this and other countries, the medical profession working through the Red Cross has aided greatly in improving hygienic conditions. Their relief work in times of public disaster and their endeavors in stamping out tuberculosis are too well

known to require comment. But as part of their routine work, they include popular health instruction: lectures, pamphlets and exhibitions in campaigns against tuberculosis, cancer, venereal disease and alcoholism. More than 750 public health nurses supported by the American Red Cross are working daily to improve conditions of health and hygiene in our large cities and in isolated rural sections.

Health Supervision in Schools. Another important branch of hygienic endeavor is the supervisory medical work in our public schools and colleges. In many states, periodic physical examinations are given the children. Their sight and hearing are tested for possible defects. Their teeth are examined, and treated at clinics, either gratis or at a nominal charge. Milk and other nutritious foods are supplied to undernourished children.

In Colleges. In all of our colleges, resident physicians supervise the health of the students. In cooperation with the department of physical education, they supervise the diet, physical training, exercise and sports of the pupils. In many higher institutions of learning there is a definite course of lectures in personal hygiene and health care, which must be taken by each student.

Many local medical societies cooperate with schools or organizations in the furtherance of public health by sponsoring hygiene lectures in our evening schools, tests of sight and hearing for Boy Scouts and other groups, and by preventive medical work of their members at the free clinics.

Hygiene and Scout Training. Incidentally, much valuable information on hygiene and health care has been disseminated among young people by Boy and Girl Scout Troops. A knowledge of the principles of hygiene and practical first aid is required in earning merit badges. The increased interest in camping and other outdoor activities in recent years is attributed to the influence of

Boy Scouts. With the aid of experts, minimum requirements of health, safety and sanitation have been outlined and have set a safe standard for camping in this country.

The Movement for Certified Milk. The American Medical Milk Commissions have done laudable work in decreasing infant mortality. Through cooperation with local medical societies and dairymen, high and uncompromising standards have been set for the production and marketing of "certified" milk. Certified herds are fed a varied diet designed to produce milk highly nutritious in vitamins and mineral salts. Its bacterial count is extremely low compared with the standard count for the highest grade of pasteurized milk. Its purity and high nutritive value have combined to save the lives of many infants. It has aided in building strong, healthy bodies for thousands of American children. Not only this, but by its influence, it has also made great improvement in the standards for pasteurized milk.

Public Health Commissions. Municipal public health commissions, generally headed by physicians, supervise the order, safety and cleanliness in every direction of commercial life. They supervise the food and water supply, housing and lighting conditions, sewerage, bathing establishments, public parks and sanitary provisions in public conveyances.

WEST PORTAL OF THE RIVERSIDE
CHURCH SHOWING SCIENTIFIC AND
RELIGIOUS LEADERS

SCIENTISTS AND RELIGIOUS LEADERS REPRESENTED ON THE
WEST PORTAL OF THE RIVERSIDE CHURCH.

Arch II: Scientists. Beginning at the left base of the arch, above the Second Commandment, these figures represent Hippocrates, circa 460-377 B.C.; Euclid, c. 300 B.C.; Archimedes, c. 287-212 B.C.; Hipparchus, c. 160-125 B.C.; Ambroise Paré, 1517-1590; Galileo, 1564-1642; Johann Kepler, 1571-1630; Sir Isaac Newton, 1642-1727; John Dalton, 1766-1844; Michael Faraday, 1791-1867; Charles Darwin, 1809-1882; Louis Pasteur, 1822-1895; Sir Joseph Lister, 1827-1912; and Albert Einstein, born 1879.

Arch IV: Religious Leaders. Left to right: Moses; Confucius, c. 550-478 B.C.; Buddha, c. 552-472 B.C.; Mohammed, c. 570-632 A.D.; Origen, c. 185-253 A.D.; Saint Francis of Assisi, 1182-1226; Dante Alighieri, 1265-1321; Balthazar Hübmaier, 1480-1528; Martin Luther, 1483-1546; John Calvin, 1509-1564; John Bunyan, 1628-1688; John Milton, 1608-1685; William Carey, 1761-1834; and David Livingstone, 1813-1873.

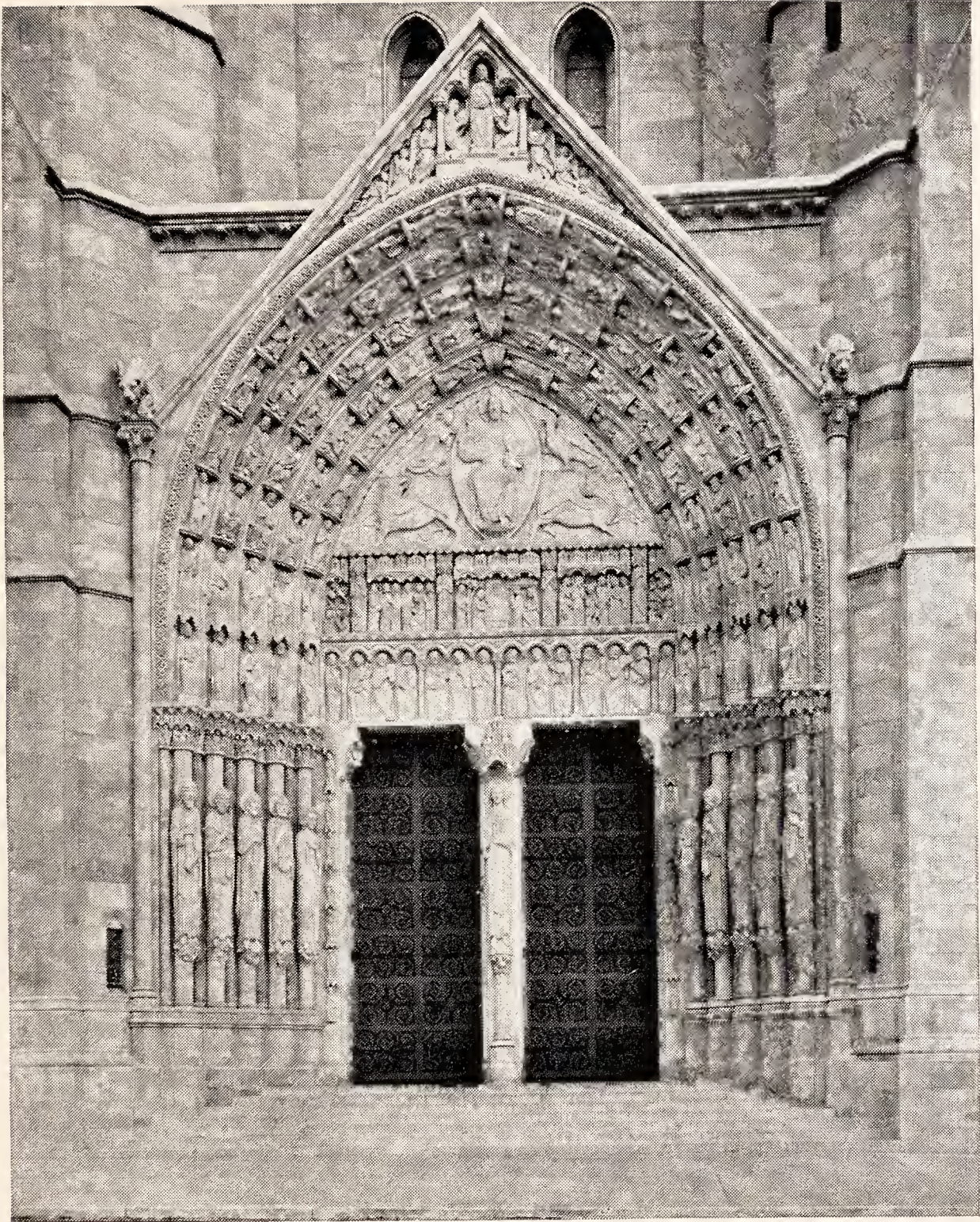


FIG. 20. WEST PORTAL OF THE RIVERSIDE CHURCH.

Chapter XXV

MODERN RELIGION IN DAILY LIFE

What it is doing in medicine, hygiene and social betterment

YEARS ago religion concerned itself mainly with doctrines and dwelt upon life after death. In this it reflected the philosophical and moderate tempo of the times. The present emphasis in all walks of life is *action* rather than *passivity*, practical efforts for betterment in everyday living rather than exclusive emphasis on moral and spiritual values.

Thus, perhaps molded by the times, the keynote of modern religion is *action*. In the various welfare organizations of different faiths this action has taken the form of practical assistance in daily living for those who are handicapped physically, mentally and financially.

Health Necessary to Spiritual Well-being. Religious leaders have realized that the moral and spiritual life of the individual cannot be developed without a basis of physical and mental health. The latter is affected by a variety of situations and conditions which superficially would seem but slightly related to health and well-being. Yet if these conditions are not adjusted satisfactorily,

health in the fullest sense of the word is unattainable. This leads religious and welfare workers far afield to remedy conditions which have a bearing on physical and mental health, on moral and spiritual well-being.

Here is where we find physicians and religious workers cooperating for the welfare of individuals and the community: in hospitals, family care, nutritional work, mental hygiene, juvenile delinquency, and in work among the crippled, disabled and tuberculous. Here is where there are the most challenging opportunities to both medicine and religion.

Ignorance Means Illness. The president of the Federation for the Support of Jewish Philanthropic Societies expresses the need and the response very graphically when he says,

Ignorance means ill health, crime, disease and shame. Through the Federation thousands are taught to read, to write and to learn to do useful things, as well as to become acquainted with Jewish religion, history, tradition and custom: in short, to be worthy of citizenship. Old folks are saved from hopelessness; babies who have no parents to look after them are cared for. The Federation means doctors and medicine, nurses and treatment, cures and lives saved; health and hope restored.

Fighting Disease. In like manner the Brooklyn Bureau of Charities, supported by people of all religious faiths, describes the growth and multiformity of its service as "inevitable" because of the manifold physical, mental and economic needs of the poor in that borough. Its most recent report says:

The frequency with which we found our poor families hopelessly handicapped by tuberculosis brought us directly into the fight against tuberculosis, indeed, into the whole movement to prevent disease. And as we worked to prevent tuberculosis, we inevitably took up the cause of better housing, for sanitary, livable homes with plenty of air and sunshine are a primary requirement for health. Not only that, an inviting, livable home gives any family, no matter how poor, the

self-respect it needs if it is to hold together and keep on striving for self-dependence. We were constantly confronted with the needs of the handicapped, the sightless, or those crippled and disabled by disease. In our family welfare department alone we helped 9,088 different families [in 1929], while 399 patients were under the care of our mental hygiene clinic. 954 blind or partially sighted women and children were visited, trained, employed or otherwise assisted, 275 cripples were aided and 4500 persons came to our *keep-well* clinics.

Sickness brings more families to us than any other cause, so in addition to giving the needy food, clothes and rent, we procure them medical care, enabling them to regain their feet and go on independently. To achieve this requires physicians, nurses, clinics and social workers. Cooperating with the Department of Health, the public schools and the medical profession, we persuade people to avoid tuberculosis and attain better health, interesting ourselves, too, in better housing for them. We provide summer camps for undernourished children, especially those in contact with active tuberculosis. All this health work requires expert service.

The large part which physical and mental disability plays as a source of distress and unhappiness is emphasized by the fact that the Jewish Federation expends over half of its funds for medical care, medical social service and sick relief. This also emphasizes the need for further cooperation between physicians and clergymen to "minister humanely, intelligently and scientifically to the poor, needy and underprivileged."

To this the Jewish Social Service Association adds:

The problem with the individual family today is much more difficult and intricate than formerly. Into it are injected the larger and more complicated considerations, such as woman and child labor, education, health and recreation. Where in former years the grant of a small sum to tide over the emergency disposed of the case, today the continuous relief must be coupled with intelligent, solicitous and painstaking efforts to rehabilitate the family.

Another charitable organization, supported by people of all faiths in one of our large cities, reports that physical

and mental problems, together with unemployment, are responsible for the majority of appeals made for help by needy families. And of course physical and mental disability and maladjustment to life or occupation frequently play a part in unemployment.

The Great White Plague. One of the first health problems to demand the attention of religious charitable organizations was tuberculosis. While medical men were intensively studying it as a medical question, the Medical Committee of the United Hebrew Charities was studying its social aspects. Twenty years ago the Joint Committee on Tuberculosis of the Free Synagogue found the Great White Plague such a contributing factor to dependency and such a disturbing complication in families receiving treatment that they devoted 20 per cent of their funds to combating it.

They treated in their homes consumptives who were awaiting admission to sanatoria, whose cases were not suitable for sanatorium treatment or whose condition prevented removal from their homes. They endeavored to improve their sanitary surroundings, to teach them prevention of infection and re-infection, and to provide suitable nourishment and other necessities. Most important to recovery were after-care and providing a means of livelihood for improved cases. At the time 55 per cent of tuberculous patients cared for by certain Jewish philanthropic organizations suffered relapses. Under the careful treatment and after-care provided by the Joint Committee, relapses occurred in only 8 per cent. When this was discovered, other Hebrew organizations instituted the same meticulous after-care. Later a model factory was built and shops were opened so that patients might continue their improvement by working under good conditions and at the same time be self-supporting. Work is done under supervision of a physician, who determines the hours and type of work for each patient. Food is provided at cost; and the

patient's earnings are supplemented so that the family is assured of an adequate minimum income.

Through health examinations other religious-social organizations have revealed many cases of active tuberculosis, provided x-ray examination and aided in securing sanatorium or hospital care for patients unable to afford a private physician.

Keeping the Family Together. In connection with all health and social work, the importance of keeping the family together has become increasingly evident. If a community is to flourish, each family in it must function normally. Desertion was formerly found to be a serious factor in poverty, with its attendant malnutrition and illness. In families of Jewish faith, the continued efforts of the United Hebrew Charities cut in half the number of these cases.

Diagnosing Family Difficulties. Where illness, accident or other catastrophe has interfered with normal family relationships, religious-social agencies endeavor to remedy the immediate trouble and to raise the general level of the family's condition and interests. Health, contentment and participation in neighborhood affairs are necessary if the family is to function as a normal group. From the aspect of health and hygiene, this service follows many directions. It aids in restoring members to health; it treats mental troubles and teaches methods of preventing illness. It smooths out family difficulties, gives vocational guidance, and finds more suitable living conditions, if necessary. In short, it aims to diagnose family difficulties and aid the family in applying corrective measures. In every case it endeavors to help the members of the family to help themselves, to become self-sustaining rather than continually or periodically dependent; and it starts with the individual, realizing that the family as a whole cannot be normal and unhappy unless each individual in it is reasonably healthy and contented. The ultimate purpose is not only to remove

and correct physical, mental and economic troubles but to build up in the family a strong resourcefulness and sustained confidence so that it can overcome its own difficulties.

Proper Nutrition. Old methods of charitable assistance to the poor and handicapped have been supplanted by more constructive plans. Realizing that the general health of the family is based on proper nutrition and household management, more than ten years ago certain religious-social bodies organized cooking classes for mothers. Later they brought together groups of undernourished children and their mothers under medical supervision for training in health and food habits. Undernourished children were sent to country summer camps, where wholesome food and healthful ways of living were made attractive to them. In their absence, their mothers were trained along the same lines so that on the children's return, both were eager to cooperate in more healthful ways of living. Follow-up work with these homes is carried on throughout the year.

Budget Service. The Home Economics Bureau of the Jewish Social Service Organization acts as budget adviser and consultant on problems of home management in individual families. It conducts researches into the cost of living and plans family budgets so that the family in question will be able to live on as high and healthful a standard as possible.

For Better Homes. In the development of family life in its broadest sense, the United Hebrew Charities and similar societies have extended their efforts in many directions. This new purpose in the treatment of family health and unity is expressed as follows:

The society has become convinced that the family, to take its place in the community and to live normally, must have a home in which healthful, comfortable living is possible; that it must have food which will sustain and promote bodily health; clothing which not only meets material needs, but which provides a measure of expression of individual taste as

well; educational opportunity in accordance with ability to make use of that opportunity; work which is congenial and offers progress; recreation for all of the members of the family; some means for spiritual development and growth; and with all of these, happy and wholesome relationships within the family group. If each of its members can be helped toward this equipment for his personal life which includes his relationships to his family and the world outside, the family as a group will then be ready to face not only its present difficulties but all those which the future holds for it.

Teaching Social Hygiene. This constructive program for maintaining American homes on a higher plane of physical, mental and moral health has also included the teaching of social hygiene. Sponsored by the Federal Council of the Churches of Christ in America, Dr. Valeria H. Parker has developed a program for helping parents deal wisely with the sex education of their children. Dr. Parker has spoken in many cities, addressing meetings of clergymen, women's clubs, parent-teacher associations, young people's groups and other representatives of the churches. Plans are then made for carrying out the suggestions given by Dr. Parker.

Classes for Parents. Believing that the chief responsibility for sex education rests upon parents, a group of clergymen in Buffalo have for two years conducted parents' classes in their churches. Previous to this the clergymen themselves received special training for this service from a competent instructor. These classes are increasing and a conference has been held on the problems of marriage and the home.

For Clergymen. Efforts are being made to include instruction in social hygiene in theological courses so that all Protestant clergymen may be trained for the leadership of parents' classes. Several denominations have prepared lessons on marriage and home-making as a part of their regular religious instruction to young people.

Dependent Children. An important extensive branch of work being done by religious and social organizations is

that among dependent children, for on their health and training rests the future success or failure of many homes.

To cite but one instance from many, the Catholic Home Bureau of the New York Diocese has more than 1000 children now under its supervision. Like other religious agencies, it now puts children in private homes rather than in orphanages. Wherever possible, the Bureau places children for adoption, though over 600 of their children are boarded in private homes.

A Healthy Child. Before placing a child, the Bureau investigates health, social, economic and religious conditions in the home in question. It makes contacts with the local doctors, and advises the foster parents to have the child examined physically at time of placement. Previous to this, each child has been examined by a physician and by the Bureau's psychiatrist for any physical or mental defects. The heredity and history of each child is recorded so that the foster parents may be given full information.

A Healthy Home. On the other hand, all foster parents are questioned as to their physical, mental and moral status so that the child may be reared under healthful conditions. The Bureau asks prospective foster parents to refer it to their priest and physician for this information. Feeling keenly its obligation to give the child healthy parents, the Bureau emphasizes the urgent need of having the physician tell confidentially whether or not the parents have any contagious or venereal disease. Take the case of Mr. and Mrs. C., whose child was born blind and died at the age of two years. The parents were in such comfortable circumstances that the mother and child had the best medical care at birth. The Bureau refused to give these parents a child for adoption because it was able to obtain no definite facts about their health and did not wish to risk a child's future happiness in this home.

In questionable cases of mental disease a parent is sometimes examined by the Bureau's psychiatrist. In other cases,

a physician may advise the Bureau to take back the child because of tuberculosis in the home or because the foster parents are too busy to care for the child properly.

Two Years' Supervision. For two years the Bureau keeps supervision over the children it has placed for adoption or boarding. The children are examined by the Bureau's psychiatrist for mental defects. Twice a year they are given a thorough physical examination for any ailments or defects which may have developed since their placement. Those with physical or mental defects are placed in hospitals or in private homes where they can have special care. For instance, one foster mother who has had hospital training with cardiac cases now has two cardiac children in her home. Crippled children are given special treatment and placed in schools where they can learn a trade. Self-pity because of handicaps is not encouraged, but rather a spirit of optimism and independence.

Individual Foster Homes. Jewish and Protestant welfare organizations carry on work similar to that of the Catholic Home Bureau, endeavoring so far as possible to place the child in a foster home where his physical, mental and moral health can be carefully supervised and where his environment will resemble closely that of the child with his natural parents. Surveys of church institutions caring for dependent children have been carried on by Protestant denominations so that the highest standards for child-care may be developed and maintained.

Health and Institutional Care. Where children must be placed in institutions, thorough medical and psychological examinations are made, with psychiatric examinations for unadjusted children. This work has been found of the greatest value to the individual child and to the institution.

Crippled Children. Hebrew religious organizations maintain a home for crippled children of normal mentality having diseases of bones and joints and other orthopedic con-

ditions. An attending physician directs proper treatment, and supervisory care is given after discharge.

Unmarried Mothers. All religious faiths maintain homes for unmarried mothers and their babies. Here prenatal and postnatal care is given. Mothers who are friendless and require social adjustment are aided in adapting themselves to new conditions. Where necessary, they are given industrial or commercial training to make them economically independent and able to support their children.

Day Nurseries. To widowed mothers and others who for any reason must assume the support of a young family, day nurseries offer a safe, wholesome place where the children can be left while their mothers are at work. Special health examinations are given with a view to correcting physical defects. The children's diet is carefully controlled: Each child receives orange or tomato juice and cod liver oil, and nutritious meals, in many cases approved by an attending physician.

Supervisory Care. The Hebrew Sheltering Guardian Society endeavors to adjust the child to his environment after discharge from an institution or the boarding bureau by frequent visits to his home, by vocational guidance and by supervision of his health and social life. A winter camp is maintained by members of this faith for anemic and undernourished boys from hospitals or public schools, without any charge to the boys for board or clothing.

In New York City there are monthly meetings of the Protestant, Catholic and Jewish welfare groups caring for dependent children. Here they discuss various problems concerning the health, behavior, maladjustment, delinquency and recreation of the children under their care.

Vocational Guidance. To young people in their teens welfare organizations of various religious faiths offer vocational training and guidance, which is so important in preventing maladjustment and its attendant mental ills. The Vocational Guidance Department of the Jewish Social

Service Association administers a scholarship fund in preparing children to earn their living as well as their capacity will permit. Vocational guidance tests are given to aid in placing young people properly.

Delinquency and Mental Ills. Delinquency among children and adults is frequently due to mental defects and maladjustment. Sympathetic efforts are being made to meet these problems of delinquency by educational, vocational, moral and religious training. The different religious faiths maintain representatives at court to handle and follow up cases. This includes the Big Brother and Big Sister work, and parole work for juveniles and adults. Medical, psychological and psychiatric clinics are maintained for treating problems of behavior maladjustment, so that each individual may start life anew on a sound physical and mental basis. Wherever feasible, the young people live at these institutions in small family groups in charge of a foster father and mother, so that the normal conditions of a healthful home life may be duplicated as nearly as possible. Religious classes are held and individual moral guidance given. Trade, commercial and general courses fit both adults and young people to cope with life better after they have left these institutions. Recreational activities are regarded as an important part of a healthful, contented life, for they occupy that time and energy which was formerly spent by delinquents in unfortunate ways. Employment service is rendered by these institutions so that each person may resume his life in the world in as congenial and suitable an occupation as possible.

Mental hygiene is an integral part of this work with delinquents as well as those with mental defects and nervous disorders. Hebrew charities, for example, maintain a mental hygiene department which acts in a consultant and advisory capacity on neurological and psychiatric problems referred by their field workers. These workers, in turn, are advised as to the treatment and method of approach; and

psychotherapeutic treatment is given to both children and adults. Defectives are placed in institutions which can give them proper care.

Clinic psychologists also endeavor to discover the intellectual and vocational capacities of the individual. Sometimes a patient of inferior intelligence labors under a haunting sense of failure because he is doing work beyond his capacity or unsuited to his capabilities. In other cases, he may feel that the world is against him because he is doing work of a lower grade than he is capable of. Mental hygiene clinics save much wasted effort on the part of social and religious workers and much discouragement on the part of "misfits" by determining a person's natural aptitude and capacity, and pointing the way to his placement in suitable work.

Helpful psychological tests are given many children to show their vocational aptitudes so that early in life they may be started on careers for which they are fitted and in which they can succeed.

Treating Mental Disorders. With the present rapid increase of mental disorders, perhaps the greatest opportunity for cooperation between clergymen and physicians today lies in the field of mental hygiene. This is the feeling of many clergymen and physicians. Dr. Raymond Calkins, pastor of the First Church in Cambridge, Massachusetts, says in this regard:

I think that the doctor and the clergyman should cooperate definitely in cases of mental derangement and neurosis. As yet, neither the medical profession nor the church is equipped to do this work as it should be done. The medical profession does not have at its command nurses trained to deal consecutively and constructively with nervous unfortunates; and the church has not a sufficient staff of workers to give these the constant attention which they need.

Yet hopeful progress along these lines is being made in

a number of cities, with results that promise much from the future cooperation between physicians and clergymen.

Body and Soul Clinic. I have already mentioned the work of the Body and Soul Medical and Mental Clinic held in New York City at St. Mark's Church. Here physicians, psychiatrists, clergymen and social workers diagnose and minister to the physical, mental, social and spiritual needs of the patients. While being treated by the physician for physical disease or mental ills, they may be helped spiritually by a clergyman or guided vocationally by a social worker. This clinic has been successfully carried on for a number of years.

The Associated Clinic. Equally interesting is a more recent cooperative effort to relieve mental disorders, sponsored by a group of physicians and clergymen in Brooklyn, New York. This is the Associated Clinic, held weekly at the Church of the Holy Trinity. Each patient is first examined by the attending physician to ascertain any physical difficulties which may play a part in his nervous troubles. Then he is examined by the neuropsychiatrist of the clinic. Finally he talks with the attending clergyman. An increasing number of people with nervous disorders who are laboring under great mental strain come to this clinic. There are more male than female patients.

The purpose of this clinic is best set forth in its own statement:

In recognition of the profound influence of healthful thinking upon mental and physical conditions, a group of physicians and clergymen, the latter representing the Brooklyn Federation of Churches, have joined efforts to bring to bear the resources of both professions on such patients as shall seem likely to be benefited by such cooperation. The Clinic suggests for treatment the following types of patients: Functional nervous disorders, borderline mental cases; also those whose habits or abnormal actions may be corrected by religious influence. Patients are acceptable to the Clinic only when referred by or with the consent of their family or attending physician.

Helping the Disabled. Work for the blind, crippled and disabled has always been an important part of the achievement carried on by people of all religious faiths. Special foods and nursing service are provided; clinic visits are arranged; and perhaps most important of all, vocational training is given so that the handicapped person may have some wholesome occupation for hands and mind, and may become economically independent.

Modern ophthalmology is today saving part of the sight for those who a generation ago would have been wholly blind. But even the partially blind require special vocational training, such as textile weaving, basketry and sewing, if they are to achieve a reasonable measure of independence and contentment. Recreational and health needs must also be looked after if these handicapped people are to be saved from discouragement and despair.

Many crippled and disabled children and adults now learn to be self-supporting as a result of the medical care, education and vocational training afforded them in schools and workshops maintained by various charitable and religious organizations. Cardiac cases and disabilities from street accidents are increasing in many of our large cities. In some cases, persons are so disabled that they can do work only as it is brought to them in their own homes. Others can handle factory jobs in sheltered workshops which are free from the rush and noise of the average industrial plant. While they are receiving treatment for physical or mental disability, here they can gradually regain self-confidence and sometimes perfect themselves in suitable work so that they can take their place again in industrial or commercial life.

Hospital Service. Perhaps better known than any other branch of medical and religious cooperation are the hospitals which have been maintained under religious support and direction for so many years. These hospitals provide the latest scientific facilities for the treatment of the sick

poor, and provision for middle-class patients at rates within their means. Some of these hospitals give more than 75 per cent of care *free* to their ward patients, including x-ray, laboratory examinations, transfusions, braces and drugs. Their clinics and out-patient departments treat every type of case: mental, orthopedic, neurologic, venereal, contraceptive, stomach, cardiovascular, pulmonary and many others.

Medical Social Service. Social service in connection with hospital and clinic patients is an important branch of hospital work. Food, clothing, medical and surgical supplies are provided for convalescent patients. In district home visiting, special attention is given to cardiac children, mental hygiene and infant hygiene. Medical social service supplements the physician's diagnosis with needed adjustment in the social and economic conditions of the patient's environment; it arranges for convalescent care and supplies medicines and appliances which have been ordered by the doctor but for which the patient is unable to pay.

Religious leaders have also interested themselves in a far different branch of work, which nevertheless has an important bearing on physical and mental health. As a basis of cooperation, the churches have urged employer organizations to work with labor unions in a spirit of fairness and mutual interest.

Health, Industry and Religion. The Federal Council of Churches says that:

The church has therefore a great possible contribution to make to the peace, the stability, the efficiency which grow out of mutual confidence and cooperative effort, and supremely to the guiding motives of industry which make of it either a cruel and sinful exploitation of labor and natural resources or a tremendous cooperative effort for the welfare of mankind. The church is also vitally concerned because factory, store, field and transportation are character-forming. For good or ill, they promote goodness or thwart it.

Bettering Conditions in Industry. In 1923 the Commission of the Federal Council of Churches made a study of the twelve-hour day in force in important corporations of the steel industry. It was joined by the National Catholic Welfare Conference and the Central Conference of American Rabbis in a public protest against the hardship of the twelve-hour day upon the health and lives of the workers. Two years before, industrial leaders had rejected the appeal of the President of the United States that this working day be shortened. But then the churches of these three religious faiths aroused public opinion to such an extent that a shorter working day was put into operation. This abandonment of the twelve-hour day in the steel industry, with resulting benefits to the health of the workers and without loss to the industry, was mainly the result of an organized protest of Protestant, Catholic and Jewish national bodies which grew out of their association in research.

Religious leaders have also endeavored to initiate salutary reforms in southern industries, such as a shorter work-day, protection of the labor of women and children, and a wage on which healthful and decent living can be maintained.

Health Work among the Negroes. Another important branch of endeavor which holds out great promise for fruitful medical and religious cooperation is work among the twelve million Negroes in this country. Since the coming of several millions of them to the industrial cities of the north, it has been realized as never before that disease, lack of sanitation, bad housing and poverty of one part of the community affects the general health and welfare. Both Negro and white churches have shared in an adult health educational program. Negroes now support and benefit by the health and welfare activities of religious and charitable organizations.

Relief in Disasters. Religious organizations have also played an important part in relief work during emergencies

or disasters. During the Florida hurricane disaster and the Mississippi flood, the Committee on Mercy and Relief of the Federal Council of Churches sent a representative to give needed counsel and assistance to persons in the stricken area and assisted the Red Cross in raising the necessary funds. This Committee has also advocated the preparation of a brief manual on disaster relief, for use in times of distress. It also emphasizes the importance of follow-up work for restoring proper health and sanitary conditions and normal family and community life after disasters.

The instances mentioned in this chapter are but a few of the philanthropic endeavors of various religious bodies in the interest of healthier, saner, happier living. But I think they are indicative of vast possibilities for future co-operation between medicine and religion.

Chapter XXVI

THE OUTLOOK FOR FUTURE MEDICAL AND RELIGIOUS COOPERATION

THE belief of modern religious leaders that a basis of physical and mental health is necessary for the highest moral and spiritual development is evidenced by their practical endeavors. Many of these I have mentioned in the preceding chapter. Together with some of the distinctly cooperative efforts with the medical profession, they augur well for future medical and religious cooperation.

The need for further cooperation in religious and medical service is evident to all engaged in this work. In addition, I believe there is unlimited opportunity for better understanding and closer cooperation in solving the vital problems discussed in Part III of this book.

Building Better Family Life. It seems to me that a solution of most of these problems hinges upon the building up of better family life, physically, mentally and morally. To this end, all should realize that each child should have the right to be well born; that it is morally wrong to bring him into the world doomed to illness, mental handicaps and poverty.

In good heredity and a normal, happy home life lies the

solution of many of our problems of juvenile delinquency and crime. Physical and mental handicaps and aberrations are responsible for the plight of many of our criminals and moral delinquents. With their heredity and early environment they cannot be normal and useful citizens.

Training for Marriage. Physicians, clergymen and parents can cooperate in training young people for marriage, in inculcating a knowledge of the physical, mental, moral and spiritual values necessary to happy and successful mating. While it should be recognized that certain types of people never mate well, I believe that the real solution of the divorce problem lies in the proper sex education and training for marriage, rather than in trying to repair the damage or frown upon divorce later in life.

Health Education. Much has recently been accomplished in preventing illness by educating the public in health and hygiene. Even yet, ignorance of the general laws of physical and mental health is appalling. Here again, medicine and religion can unite in health education and in showing that violation of natural laws results in illness, without respect to persons.

For some years there has been a tremendous increase in nervous disorders. Here lies one of the greatest fields for cooperation between physicians and clergymen. Many of these patients, I believe, would benefit from treatment at clinics such as those already carried on by cooperating physicians and clergymen.

A liberal and progressive viewpoint in both physicians and clergymen has made possible the admirable and far-reaching results already accomplished. For the future, open-mindedness is needed by both professions if they are to keep in step with constant change and progress, if they are to cooperate for better physical, mental and spiritual health and human happiness.



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